A STUDY ON

"COMPARATIVE CLINICAL STUDY ON *PARANGISAKKAI CHOORANAM* (INTERNAL) AND KARAPPAN ENNAI (EXTERNAL) FOR THE TREATMENT OF "KARAPPAN" (ECZEMA) WITH AND WITHOUT YOGAM "

DISSERTATION SUBJECT BY

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DECLARATION BY THE CANDIDATE

I hereby declare that this dissertation entitled "COMPARATIVE CLINICAL STUDY ON *PARANGISAKKAI CHOORANAM* (INTERNAL) AND *KARAPPAN ENNAI* (EXTERNAL) FOR THE TREATMENT OF "*KARAPPAN"* (ECZEMA) WITH AND WITHOUT *YOGAM*" is a bonafide and genuine research work carried out by me under the guidance of **Dr.V.MAHALAKSHMI,M.D(S),** Lecturer**.,** Department of **Sirappu Maruthuvam**, National Institute of Siddha, Chennai -47, and the dissertation has not formed the basis for the award of any Degree, Diploma, Fellowship or other similar title.

Date: **Signature of the Candidate**

Place: Chennai-47 **Dr. B. R. DINESH**

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AIM AND OBJECTIVES

AIM:

To compare the efficacy of *Parangisakkai Chooranam*" (Internal) and *Karappan Ennai* (External) with and without *Yoga*m in *Karappan.*

OBJECTIVE:

- To study the Siddha basic principles, *Envagai Thaervu* in the patients of Karappan .
- To study the effectiveness of Yogam in the management of Karappan along with trial drug.
- To perform Biochemical analysis of the trial drug.

கரப்பான்

நோய் இயல்:

தோலில் திமிர், குரு, புண், தடிப்பு அகியகுறி குணங்களையுடய படைகளை உண்டாக்கி, அவ்விடங்களில் வீக்கம் கொப்புளங்கள் கண்டு அல்லது செதில் போன்று தோல் சுரசுரப்பாகி தோலின் இயற்கை நிறத்தை வேறுபடுத்தி சிலவேளை வெடிப்புண்டாக்கி, நீர்கசிதல் அகிய குறி குணங்களை காட்டும் தோற்பிணியை கரப்பான் அல்லது கரப்பன் என்று கூறுவர்.

நோய்க் காரணம்:

கரப்பான் நோயை உண்டாக்கும் காரணங்களை அறுதியிட்டுக் கூற முடியாதாயினும், இது உண்டாவதற்கான அடிப்படைக் காரணம் கிருமிகள் அன்று என்று எண்ணப்படுகின்றது.

- "மிகினுங் குறையினும் நோய்செயும் நூலோர்
  வளிமுதலா எண்ணிய மூன்று. " -திருவள்ளுவர்
- "வாதமலாது மேனிகெடாது - தேரையர்

குருநாடி நூல்

'வயல்தனிலே பூநாக மண்ணைத் தானே
வருந்தியது புத்துப்போல வத்தையாகும்
பயல்மொழியீர் தேகத்தில் கிருமிதானே
பரந்துரகி குட்டம்போல் புள்ளிகாணும்
மயலதுவுங் கிருமியுந்தான் நடந்துபுக்கில்
மேனியது சரசரென வெடித்துப் புண்ணாம்
கயல்பெருகும் குழல்மடவீர் சொல்லக் கேளிர்
கரகரத்துச் சொறிபெருகுங் கரபான் தானே'

'சங்கையில் விடகரப்பான் வருமாறேது
சாரமுடன் கிருமிவிழுந் தன்மையேது
உட்டிணமே அதிகம்வரு மிந்திரிய போகத்தா
லுனுருகி யத்திலே வேவுகொண்டு
நட்டணமாய் வெந்ததொரு மச்சைதன்னில்
நாட்டமிட்டே கிருமியது யணுகும் போது
மட்டுடனே கிருமியெல்லாம் பறந்தங்கேறி
வகையுடனே மாங்கி'த்தைத் துளைத்துமேவும்
திட்டமுடன் விடகரப்பான் பறந்துமேலே
தினவுடனே பரபரத்துச் சொறியுண்டாமே'

- *குருநாடி நூல்*

பரராச சேகர கிரந்தி நிதானம்:

வாதபித்தங் கபமிவை மூன்றுவந்
தேதுவாய்வெ யிலான் மடியாலிகற்
கோதையார்மயலார் வெயர் வாற்குளிர்
பேதநீரிவை மாலுள பேசுகேளின்
வேதக் காற்றிதி நற்பனை வெல்லத்தால்
பாகமின்கள் வான்மேதிப் பானெய்யில்
தாகமாலின் வடுக்கனி சார்தலால்
மோகவாழை வழுதலை முள்ளிக்காய்
காயும் பல்லிடத் தாற்சுரத் தாற்கனல்
ஏயும் வண்டெலி யால்வருமேது வென்
ருயு நல்லறி வான ரருளினார்
மாய மான கரப்பான் வகைகளே'

- *பரராச சேகர கிரந்தி நிதானம்*

Classification of eczema in siddha aspect:

In siddha aspect, there are 7 types of karappan in text. They are

1) *Vaatha karappan*
2) *Kanda karappan*
3) *Varachi karappan*
4) *Thimirvatha karappan*
5) *Kabala karappan*
6) *Pitha karappan*
7) *Sethuma karappan*

Theerum karappan,

1) *Vatha karappan*
2) *Pitha karappan*
3) *Varachi karappan*
4) *Kabala karappan*

As per '*Yugi Vaidhya Chindamani* - 800' the types of *Karappan* are seven:

1. *Vatha karappan*
2. *Kanda karappan*
3. *Varatchi karappan*
4. *Thimirvatha karappan*
5. *Kabala karappan*
6. *Azhal karappan*
7. *Iyya karappan.*

In **"***Pathinen Siddhar Balavagada Thirattu***",** *Karappan* is classified into18 types:

1. *Vali karappan,*
2. *Azhal karappan,*
3. *Iyya karappan,*
4. *Ari karappan,*
5. *Oothu karappan,*
6. *Soolai karappan,*
7. *Vedi karappan,*
8. *Mandai karappan,*
9. *Pori karappan,*
10. *Sattaik karappan,*
11. *Odu karappan,*
12. *Karun karappan,*
13. *Sen karappan,*
14. *Kolli karappan,*
15. *Thoda karappan,*
16. *Vaalai karappan***,**
17. *Varal karappan,*
18. *Veengku karappan*.

In the text '*AthmaRakshamirtham***'** the classification of *Karappan* is of 20 types:

1. *Vali karappan,*
2. *Azhal karappan,*
3. *Iyya karappan,*
4. *Karun karappan,*
5. *Sen karappan,*

6. *Mandai karappan,*
7. *Ari karappan,*
8. *Pori karappan,*
9. *Kiranthisoolai karappan,*
10. *Vaalai karappan,*
11. *Othu karappan,*
12. *Sevvappu karappan,*
13. *Kolli karappan,*
14. *Kadi karappan,*
15. *Vengu karappan,*
16. *Uthir karappan,*
17. *Sattai karappan,*
18. *Vedi karappan,*
19. *Singamuga karappan,*
20. *Eri arappan*

CLINICAL FEATURES OF *KARAPPAN*

"என்பது கரப்பான் தன்னையியம்பிடு மாறுகேளிர்
நன்பிடும் வாதம் பித்தம் நலங்கெட்டுத் தானும் வீங்கும்
புண்படுங் கரங்கள் சந்துபுலைந்துடல் கடுத்துநோகும்
வன்புடன் வெடித்துச் சூலைவருவது ரணமீதென்னே"
உளைஞ்சுமெல யிதஎன்சீதங் காணும்
உளமாய் மூத்திரந்தாலு ருங்கிவிழும்
அளைஞ்சுமே யங்கமெல்லாஞ் சொறியுண்டாகும்
அழலாக வெதும்பலாக் கைகாலோயும்
புளைஞ்சு மேலிங்கத்திற் யுன்போலிருத்திப்
பொடிபொடியாய் சுண்ணாம்புக்கற் போல்விழும"

\- *அகத்தியர் இரண நூல்*

According to *Agathiar Rana Nool* clinical features about *Karappan*:

- Classified into 80 types
- Produced due to derangement of *Uyirthathu*(vital humors), *Vaatham, Pitham* and *Kabam*
- Symptomised by
    - Itching
    - Cracking
    - Oozing

- Pus exudation
- Sloughing
- Oliguria
- Fatigue

NAADI :

ஐய நாடி

“தானமுள்ள சேத்துமந்தா னிளகில் வெப்பு
சயமீளை இருமல்மந் தார காசம்
ஈனமுறுஞ் சந்நிவிட தோடம் விக்கல்
இருத்ரோகங் கரப்பான் விரண தோடம்
மானனையீர் சூலைதிரள் வியாதி வீக்கம்
வருஞ்சத்தி சுவாசம்நெஞ்சடைப்பு தூக்கம்
ஏனமுறுங்காமாலை பாண்டு சோபை
ஏழுசுரங்கள் பலதுக்கம் விடமுண்டாமே.

- சதக நாடி

“சங்கையில் விஷகரப்பான் வருமா றேது
சாரமுடன் கிருமிவிழுந் தன்மை யேது
பெரங்கியங்கே ஊணுருகும் கிராணி யேது
பூராயன் மானதொரு பவுத்திர மேது
தங்குமுளமூலமது தளர்வதேது
கங்குலதுபோல வருத்துங் காந்தலேது
கருத்துடனே யிந்தவகைக் கருமங் கூறே.
குட்டமது விடகரப்பான் விடநீர் சூலை

-குரு நாடி நூல்

“சுரோணிதத்தால் தாதுகெட்டுத் தடிப்புண்டாகும்
மட்டறமே கிருமிசேன்று மருவும் போது
வகையாய்க் கிருமியுட விடநீர் சென்று
குட்டமுடன் தேகமெல்லாம் பறக்கும் போது
குழிகுழியாய்க் கிருமியினீர்க் கொள்ளும் புள்ளி
தட்டறவே கிருமியுட நீரால்வந்த

சகலகுட்டம் விடகரப்பான் சாற்ற லாமே.

-குரு நாடி நூல்

The above mentioned nadi can cause *karappan* as per *sathaga naadi.*

DIAGNOSIS OF *KARAPPAN:*

Diagnosis of Karappan in Siddha system is mainly based on *Envagai Thervu* (Eight ways of examination**)** and also on other factors like,

- *Uyir Thaathukkal* (vital humors)
- *Udal Thaathukkal* (body constituents)
- *Gnanenthiriyam* (organs of perception)
- *Kanmenthiriyam* (Motor organs)

UYIR THATHUKKAL

Vaatham

- In *Karappan* commonly affected types of *Vaatham* are *Abanan, Viyaanan, Samaanan* and *Devathathan.*
- Derangement of *Viyanan* leads to itching, dryness of skin, thickness.
- Involvement of *Samanan* leads to imbalance of functions of other Vaayukkal.
- Derangement of *Devathathan* leads to sleep disturbances.
- Derangment of *Abaanan* leads to constipation.

In ***Pitham***

- *Karappan c*ommonly affected type of *Pitham* is *Ullollithee* (Prasakapitham).
- Normally *Prasakapitham* gives complexion to the skin. In *Karappan* the skin becomes hyperpigmented and lose its normal colour.

Kabam

- *Kabam* is usually not affected in *karappan.*

UDAL THAATHUKKAL

Imboothangal are important in the formation of body constituents mainly by *Pancha bootha panchikaranam* theory. Derangement of body constituents especially Saaram and Senneer causes karappan.

Derangement of *Saaram* leads to depression and tiredness of mind and body. Deranged *Senneer* causes itching, affects colour of the skin.

GNANENTHIRIYAM

Imboothangal forming the basic constituents of *Gnanenthiriyam* get deranged. Commonly affected *Gnanenthiriyam* is Mei producing itching, papule, vesicle formation, oozing, crusting, scaling, and hyperpigmentation.

KANMENTHIRIYAM

Imboothams forming the basic constituents of *Kanmenthiriyam* were not commonly affected in *karappan.*

***PINIYARI MURAIMAI* (DIAGNOSTIC METHODS)**

Piniyarimuraimai is the method of diagnosing disease. It is based on the following principles:

1. *Poriyalarithal* (Examination by the sense organs)
2. *Pulanalarithal (*Examination of the sensory function)
3. *Vinaathal (*Interrogation)

Poriyalarithal and *pulanalarithal* goes hand in hand with the concept of examining the patient's *'Pori'* and '*Pulan'* with that of physician's *'Pori'* and *'Pulan'*.

'*Vinaathal'* is a method of enquiring about the details of the patient's problem from his own words or from the person who take care of the patient, when the patient is not able to speak (or) if the patient is a child**.'**

***Envagai Thervu* (Eight Types of Examination)**

'நாடிப் பரிசம் நா நிறம் மொழிவிழி

மலம் மூத்திர மிவைமருத்துவ ராயுதம்"

- *தேரன்*

The Eight ways of Examination

1. *Naadi* (Pulse reading)
2. *Sparisam* (Tactile sensation)
3. *Naa* (Tongue)
4. *Niram* (Color)
5. *Mozhi* (Speech or Voice)
6. *Vizhi* (Eyes)
7. *Malam* (Stools)
8. *Moothiram* (Urine)

1.Naadi

In *Karappan* the following types of *naadi* could be felt. They were,

- *Vathapitham*
- *Pithavatham*

2.Sparisam

In *Karappan* patient's general body temperature - slight warmth, dryness, roughness and elevation of skin was noted.

3.Naa

In some patients, coated tongue was noted.

4.Niram

Skin colour becomes hyper or hypopigmented in the affected area.

5.Mozhi

No change or disturbance in voice was noted.

6. Vizhi

There are no changes in the vision.

7.Malam

In *Karappan* some patients have constipation.

8.*Moothiram*

- ***Neerkuri* (Physical examination of urine)**

Urine is collected after taking a well-balanced diet (appetite corrected, seasonally correlated), which do not alter the three vital humors. It should be examined within 3-3/4 *Nazhigai*. (90 minutes).

In *Neerkuri* the *Niram* (Colour), *Manam* (Odour), *Nurai* (froth), *Eadai* (specific gravity) and *Enjal* (deposits) are noted.

Apart from these the frequency of urination, abnormal constituents such as sugar, protein, presence of blood, pus, and renal crystals must also be found out. In *Karappan* patients straw coloured urine was noticed.

***Neikkuri* (oil in urine sign)**

The collected specimen as said above is to be analysed by following method. The specimen is kept open in a glass dish or china clay container. It is to be examined under direct sunlight, without any shaking of the vessel.Then add one drop of gingelly oil on the surface of the urinary specimen and the *Neikkuri* was noted in direct sunlight, and conclude the diagnosis as follows:

1. **Character of *Vathaneer*:**

"அரவென நீண்டினஃதே வாதம்"

When the oil drop lengthens like a snake, it is called "*VaathaNeer*".

2. **Character of *Pithaneer*:**

"ஆழி போற்பரவின் அஃதே பித்தம்"

When the oil drop spreads like a ring, it is called "*PithaNeer".*

3. **Character of *KabaNeer:***

"முத்தொத்து நிற்கின் மொழிவதென் கபமே"

When the oil drop appears like a pearl, it is called "KabaNeer".

4. **Character of *ThonthaNeer:***

Snake in the ring, ring in the snake, snake in the pearl and ring in the pearl are the characters of *ThonthaNeer.*

In *Karappan* the *Neikkuri* was *VaathaNeer, PithaNeer* and *KabaNeer***.**

***NOI KANIPPU VIV AADHAM* (DIFFERENTIAL DIAGNOSIS):**

- ***காளாஞ்சக படை*** **(Psoriasis)**

Psoriasis is a chronic papulosquamous disorder of unknown etiology. It is charecterised by

- Papular and plaque lesions with silvery white micaceous scales.
- It predominently affects the extensor aspects of extremities and lumbosacral area.

- ***புண்டரீகக் குட்டம்***

"கூடுமே தாமரையின் பூவிதழ் போல்
குவிந்து மேகறுப்போடு வெளுப்பு மாகுந்
தேடுமே சிவப்புபல வண்ண மாகுந்
தினவுமிக வாராது சொனையிற் பன்னீர்
வாட்டுமே அய்யிணுற் பத்தியாகி
வருத்தமிக வுண்டாகி நோவு மாகும்
போடுமே சரீரங்கள் முகங்கள் காது
புண்டரீகக் குட்டத்தின் புதுமைதானே"

\- *யூகி வைத்திய சிந்தாமணி*

Symptomized by

- Erythema
- Itching
- Hypo and Hyper pigmentation

LINE OF TREATMENT:

In Siddha system of medicine, the main aim of the treatment is to cure the disease by removing the root cause. Treatment is not only for perfect healing but also for prevention and rejuvenation.

"நோய்நாடி நோய்முத னாடி யதுதணிக்கும்
வாய்நாடி வாய்ப்பச்செயல்

- திருவள்ளுவர்

Thiruvalluvar says in **"***Thirukkural***"** about physician's duty to study the disease, study the cause, seek subsiding ways and do what is proper and effective.

In Siddha system, the line of treatment consists of:

- *Neekkam* (Treatment)
- *Niraivu* (Rejuvenation of wellbeing)
- *Kaappu* (Prevention)

Rules for healthy living has been quoted in *Patharthaguna chinthamani* as follows,

"திண்ண மிரண்டுள்ளே சிக்க வடக்காமற்
பெண்ணின்பா லொன்றைப் பெருக்காமல்- உண்ணுங்கால்
நீர்சுருக்கி மோர்பெருக்கி நெய்யுருக்கி யுண்பவர்தம்
பேருரைக்கிற் போமே பிணி".

-தேரையர்

Food items inducing *Karappan* as mentioned in Siddha literature are"-

' பெருகுஞ் சோளமிறுங்கும் பெரும்கம்பு
வரகுகாருடன் வாழையின் காயொடு
உரைகொள் பாகற் கெளிற்றுமீன் உண்டிடில்
விரிவதாய்க் கரப்பானு மிகுந்ததே'

- *சித்தமருத்துவம் சிறப்பு*

சோளம்

'சோளமெனப் பேர்படைத்த சோறுகளி னாலுடலில்
மீளச் சொறி சிரங்கு விர்த்தியதாம் - நாளுங்
கரப்பானும் உண்டாம் கனமருந்தும் பாழாம்
பரப்பனைய கணமானதே! பார்'

- *அகத்தியர் குணவாகடம்*

கம்பு

'கம்பு குளிர்ச்சியென காசினியிற் சொல்லுவர்காண்
பம்பு சொறிசிரங்கைப் பாலிக்கும் - வெம்பும்'

- *அகத்தியர் குணவாகடம்*

வரகு

‘எறிகபத்தோ டேபலநோ யெய்தும் வறட்சி
சொறிசிரங்கு பித்தந் தொடரும் - நிறையுங்
கரகமெனப் பூரித்த கச்சுமுலை மாதே!
வரகரிச் சோற்றால் வழுத்து’’

- *அகத்தியர் குணவாகடம்*

கார் அரிசி

காரரிசி மந்தங் கனப்புடலில் தூலப்பும்
பாரறிய வாயுவையும் பண்ணுங்காண்- நேரே
கரப்பானென் பார்பொருந்திற் காயமது மெத்த
உரப்பாகும் என்றே யுரை

- *அகத்தியர் குணவாகடம்*

பாகற்காய்

மருந்துகளின் நற்குணத்தை மாற்றும் அஃதொன்றோ
திருந்தவலி வாதத்தைச் சேர்க்கும் - பொருந்துபித்தங்
கூட்டுமத பத்தியதைக் கொண்டிருக்கும் வன்கரப்பான்
காட்டுக்கொம்புப் பாகற் காய்.

- *அகத்தியர் குணவாகடம்*

வாழைக்காய்

வாழையின் கனியரை வாதமாய்க் காய்முழு
தாழுமம் மருந்தவ ரக்கனிமூலம்

- *அகத்தியர் குணவாகடம்*

Consumption of maize, pearl millet, kodo millet, unripened banana, bitter guord may cause Karappan disease especialy those who already had the history of allergy.

“வாதமலாது மேனிகெடாது” - தேரையர்

Because as Saint *Therayar* said increased level of *vatham* may aggravate the symptom.

- First line of treatment is taking pergative medicine.
- Then only start the internal and external medicine .
- To change the food habits of the patient.

Then take easy digestable food which does not aggravate the symptoms of the patient and the same food which strengthen the *udal thathukkal* (seven body constituation).

SKIN ANATOMY

Introduction:

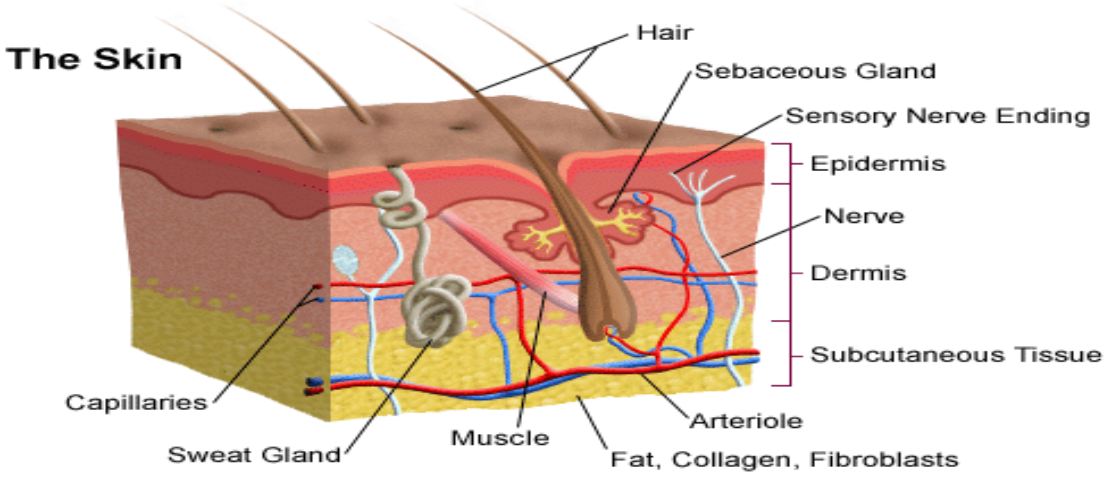
The skin covers the entire external surface of the human body and is the principal site of interaction with the surrounding world. It serves as a protective barrier that prevents internal tissues from exposure to trauma, uv radiation, temperature extremes, toxins and pathogenic organisms like bacteria. Other important functions include sensory perception, immunologic reaction, thermo regulation and control of invisible fluid loss. The integrity has three layers

1) Epidermis
2) Dermis
3) Hypodermis

Epidermis:

The epidermis is continually renewing, stratified, squamous epithelium that keratinizes and gives rise to derivatives structures called appendages. The majority of the cells in the epidermis are the keratinocytes. It has 5 layers. They are from above downwards

1) Stratum corneum
2) Stratum lucidum
3) Stratum granulosum
4) Stratum spinosum
5) Stratum germanativum



Dermis:

The dermis is formed by connective tissue having fibers and ground substances. It varies in thickness. The dermis can be divided into an upper papillary dermis that interdigitates between the rete ridges and the deeper reticular dermis recognized by the thicker, aggregated bundles of collagen. Collagen and elastic fibers are synthesized by fibroblasts. Collagen contributes about 70% of the dry weight of the dermis and is the most common protein in the body. It serves as major structural element of skin and has remarkable tensile strength. Groung substances is an amorphous material that consists mainly of water, electrolytes, proteins and mucopolysaccharides. These following structures lying in the dermis.

1) Epidermal appendages
2) Blood vessels and lymphatics
3) Nerves muscles
4) Cells – mast cells, fibroblasts, pericytes, etc.,

Dermo-epidermal junction:

It is the basement membrane zone that welds the epidermis to underlying dermis. This junction is undulated, forming dermal papillae and rete ridges.

Epidermal appendages:

1) Pilosebaceous unit
2) Sweat glands
3) Nail unit

Pilosebaceous unit:

It consists of a hair follicle containing hair and sebaceous glands opening into follicular canal of hair follicle. Sebaceous gland are lipid secreting holocrine glands. They are distributed all over the body except the palm and soles with their maximum density in seborrheic area of the body hair structure consists of cuticle, cortex, and medulla. These keratinous fibers are of two types in adults. Terminal hairs are thick, pigmented and long and are seen on the scalp, eyebrows, axillae, genital areas, etc., vellus hairs are small in diameter, short and nonpigmented and therefore difficult to discern.

Sweat glands: There are 2 types of sweat glands

1) Eccrine glands
2) Apocrine glands

Eccrine glands:

These are merocrine glands with tubular structures, which open onto the skin directly. Sweat glands are present on the entire surface of the body except the lip, external ear canal and labia minora and are most abundant on the palms, soles, forehead and axillae.

Apocrine glands:

These tubular glands consist of two main parts the coiled secretary gland and the straight excretory duct which opens into the follicular canal just above the openings of sebaceous glands. They are distributed along the mammary line e.g. Axillae, areolae, periumbilical area, mons pubis and genital and peri anal areas.

Nail unit:

It is yet another epidermal appendages. It consists of nail matrix just underneath the proximal nail fold which gives rise to nail plate a keratinized structure. The distal portion of the nail matrix is visible usually in thumbnail as nail bed and is bounded on two sides by lateral nail fold.

ECZEMA

DEFINITION:

Eczema is a non - contagious chronic skin disease which is characterized by erythema, scaling, oedema, oozing and vesiculation. The word eczema seems to have originated from the Greek word ‘ekzein’ meaning "to boil over" or “to effervesce”. Dermatitis comes from the Greek word for skin – and both terms refer to the same skin condition. The term dermatitis and eczema are generally regarded as synonyms still some authors use the term dermatitis to include all types of cutaneous inflammation. Not all dermatitis is eczematous.

HISTORY:

The term "atopic dermatitis" was coined in 1933 by Wise and Sulzberger

EPIDEMIOLOGY:

Eczematous diseases are very common with an estimated prevalence of more than 10% in the general population. According to health statistics 15-25% of all dermatological patients

suffer from eczema. Globally eczema affected approximately 230 million people as of 2010 (3.5% of the population). In India low prevalence in northern and eastern part of country (0.42-0.55). ISSAC (International Study of Asthma and Allergies In Childhood) shows prevalence between 2.4% - 6%. Regarding contact dermatitis in general population the suffers are more than 1% and in construction workers more than 45%. For the age group 6 to 7 years, the prevalence of current eczema ranged from 0.9% in India.

AETIOLOGY:

The causes of eczema are unknown. Effective eczema management requires a combination of prevention and treatment. In addition to preventing eczema flare-ups by minimizing any known triggers, treatment is also an important part of eczema management. Basically, two factors cause dermatitis and eczema.

- Allergic or sensitive skin.
- Exposure to an irritant.

The dermatologist Darier has said that, "There is no eczema but an eczematous patient". The general predisposing causes are Age, Genetic and familial predisposition, General debility, Climate, Psychological stress, Local Factors, Food as allergens.

Age:

Eczema sometimes occurs in infancy, at puberty and at the time of menopause.

Genetic & familial predisposition:

There is usually a personal or family history of allergy, viz asthma, eczema and hay fever.

General debility:

Lowering of resistance of the individual in general debility predisposes to eczema.

Climate:

Climate extremes like heat and severe cold.

Local factors:

- Xeroderma or ichthyosis, greasy skin, hyperhidrosis, varicose veins.
- Direct contact with pet and domestic animals.
- The frequent use of soaps and cleaning products that tend to affect the shiny

nature of the skin.

Animal sources:

- Cow's milk, Egg white is the allergising factor, any species of fish, meats of all kinds can be responsible for allergic reactions.

Plant sources

- Wheat flour – allergic reaction due to wheat gluten.
- Peas, beans and lentils, consumption of edible mushrooms, vegetables such as brinjal, carrot, spinach, cabbage, onion, garlic, sweet potato, cauliflower and pumpkin cause allergy in some individuals.
- Among the fruits, strawberries, bananas, oranges, grapes and apples are the principal offenders. Occasionally by pears, cherries, plums, gooseberries, Citrus fruits and tomatoes may cause atopic allergy.

Cosmetics:

Common ingredients in cosmetics such as perfumes, facecreams, deodorants, hair dye, shampoos, parabens, benzocaine, lanolin, thimersol, etc.

Clothing:

Rubber chappals, spectacle, resins, frames, furs, nylon, synthetic dyes. Most buttons of formaldehyde resins, epoxy resins are all common sensitizers.

Medicaments:

This include Sulphonamides, Penicillin, Streptomycin, Cocaine, Tincture benzoin, Neomycin, Furacin, Phenargan cream & sticking plaster etc. Dettol, savlon, cetavlon are primary irritants.

INDUSTRIAL AND OCCUPATIONAL AGENTS

- Agriculturists - Plants, weeds, fertilizers, oils.
- Automobile - Oil, petrol, solvent, grease, paints, thinner.
- Building workers - Cement, lime, paints, insecticides, kerosene oil.
- Chemical, Pharmaceutical industries - Dyes, Chemicals, explosives, solvents, disinfectants, detergents
- Housewives - Soaps, detergents, vegetables, fruits, nickel, polishes, artificial flavours, dyes, flowers.
- Nurses and Doctors - Iodine, streptomycin, chlorpromazine, tincture.
- Painters - turpentine, paints, detergents

- Plastic factory workers -resins, hardeners, solvents, glass, cellulose
- Rubber workers - T.M.T, M.B.T, dyes, glues, oils
- Tannery workers - Chromate, arsenic, alkalis, acids.
- Textile workers - Formaldehyde, solvents, dyes, bleaches.

Scratching, Chemical trauma, Climate, Stress and Strains keep the process going with the result that eczema becomes chronic. In practice mixed eczemas are much more common than pure entities. History and clinical observation are very important in establishing the exact etiological diagnosis.

IMMUNOLOGY:

Immunology deals with the body's response to antigenic challenge. Sensitization develops when a different clone of T-lymphocytes is activated. The sensitized T-lymphocytes yield two sub populations of lymphocytes. Memory cells those are responsible for the persistence of contact allergy. Effector cells that initiate the allergic response when appropriately challenged.

PATHOPHYSIOLOGY:

❖ **Allergy & hypersensitivity:**

The body behaves in a particular way when it is exposed to a chemical substance known as 'Allergen' for the first time, but changes the nature of its reaction when it is exposed for the second and subsequent times. This change is due to proteins known as antibodies. The moment, the allergen IgE combination stimulates the mast cells which unload their chemical contents into the surrounding tissues. These chemicals (mediators of allergy) cause the manifestations of allergy such as erythema, wheal and flare reaction. Flare is due to dilatation of arterioles by local axon reflex and the liberation of vasodilator substances like histamine and its byproducts like serotonin, bradykinin, acetylcholine from the injured cells like mast cells and basophils etc. The manifestation of hypersensitivity may be immediate (or) delayed type.

❖ **Cutaneous Allergy:**

In the skin two important but different allergic reactions occur.

Dermal reaction

- Dermal reaction is commonly seen in urticaria. Allergic reaction takes place in the dermis. Intra dermal tests (scratch) show reactivity.
- The causative antigen reaches the skin through ingestion, inhalation or injection of

protein substances and the reacting antibodies circulate in the serum.

Epidermal reaction

- It is seen in allergic dermatitis or eczema.
- The causative substance reaches the skin by contact. Intra dermal allergic tests are negative, but patch test shows reactivity
- Allergen + Epidermal protein – Antigen formation (probably in lymph glands)
- Allergen + Antibodies – Eczematous reaction (In epidermis)
- A severe local reaction may result in auto-intoxication & dissemination of eczematous reaction to distant parts.

❖ **Status Eczematicus**

It is believed that in case of severe allergic states, a state may develop when the patient becomes hypersensitive to even unrelated substances resulting in status eczematicus comparable to status asthmaticus in practice of internal medicine.

Reaction time

It is the time taken by a sensitized individual to manifest a clinical reaction following contact with a known sensitizer. It is usually 12-24 hours but may vary from one hour to 120 hours.

Dissemination reaction

It is a fleeting erythematous macular reaction involving the face and flexures, caused by the escape of lymphokines in the circulation resulting in vasodilatation at distant site.

Clinical Features

Eczema is characterized by superficial inflammatory oedema of the epidermis associated with vesicle formation. Itching varies from mild to severe paroxysms which may even interfere with work and sleep. It can differ in severity, frequency and duration among individuals. Flare-ups, however, can be unpredictable throughout lifetime.

Skin areas affected by eczema can exhibit a variety of characteristics including:

- Blistering
- Darkening of the area of skin affected by eczema (hyperpigmentation)
- Dryness

- Flaking
- Inflammation (swelling, irritation and warmth)
- Scaling
- Small red bumps
- Thickening of the affected skin due to frequent scratching. Scratching the area affected by eczema generally does not relieve the itching and can lead to increased inflammation, more intense itching, and harder scratching.

TYPES:

❖ **Acute Eczema:**

Acute eczema is accompanied by exudative erythema, oedema, and sometimes vesicles. It is newly produced eczema, only several days after its onset. Intercellular oedema (spongiosis), intense dermal oedema, and inflammation occur.

❖ **Subacute Eczema**

Subacute eczema has a severity between that of acute and that of chronic. Such eczema is accompanied by erythema and edema, and it is slightly lichenoid. Mild edema is produced in the epidermis. Acanthosis and parakeratosis are observed.

❖ **Chronic eczema**

Chronic eczema is characterized clinically by lichenification. When acute eczema continues for more than one week after onset, it is likely to appear lichenified, and the diagnosis is chronic eczema. Acanthosis and parakeratosis are noticeable histopathologically. However, there is less infiltration of inflammatory cells into the epidermis than with acute and subacute eczema.

CLASSIFICATION:

- Contact dermatitis
- Atopic eczema
- Seborrheic eczema
- Nummular eczema
- Asteatosis eczema
- Stasis eczema
- Autosensitization dermatitis
- Wiskott-Aldrich syndrome

1. CONTACT DERMATITIS

Contact dermatitis is localized to the site of extrinsic stimulation by foreign substance or allergic reaction. Eczema reactions such as reddening and blistering occur at the contact site.There are specific types of contact dermatitis, such as diaper dermatitis and housewive's hand eczema. The causative substances include certain plants, chemical agents, and nickel, mercury and other metals.

Clinical features

Erythema, serous papules, vesicles, erosions and crusts are localized at the contact site of the causative agent . The eczematous lesions are relatively sharply circumscribed and are intensely itchy. Although only localized areas are affected, erosive lesions may become widespread when the causative agent is spread by rubbing and scratching. If the inflammation spreads over the entire body, systemic symptoms such as fever may arise. When the causative agent is highly stimulative, it may cause necrosis of the skin and ulceration.

Pathogenesis

Allergic contact dermatitis basically occurs as a type IV allergic reaction. The causative agent invades the body percutaneously and is captured by Langerhans cells. It moves to the regional lymph nodes and transmits information about the antigen to thymus derived T cells, and they proliferate in the lymph nodes. If the causative agent reinvades the body after sensitization, the sensitized T cells become activated to release various cytokines, which leads to a prompt inflammatory reaction that causes dermatitis. This reaction is not produced by the first contact, but it is produced in previously sensitized persons even by contact with a minute amount of the antigen.

2. ATOPIC DERMATITIS

Atopic dermatitis is chronic eczema/dermatitis caused by an atopic condition (allergic asthma, rhinitis, conjunctivitis). Exudative eczema occurs on the face and ear pinna. It is characterized by eruptions of dry pityriatic scales.The patient tests positive for white dermographism.

Atopic dermatitis is classified into three age periods: infantile (age 2 months to 4 years), childhood (early childhood to puberty), and adolescent/adult.

A) Infantile atopic dermatitis:

In the early stage of atopic dermatitis in infancy, erythema, scales, and serous papules are produced on the head and face and these gradually spread to the trunk. The condition becomes exudative: erosions form with crusts and scales attached to the surface. It resembles seborrheic dermatitis. Thick crusts on the head and ear notch, and lesions around the mouth and lower jaw are also observed. The trunk and extremities become dry, and follicular papules aggregate, appearing as goose bumps. Scaly erythematous plaques form on these lesions and progress to childhood atopic dermatitis.

B) Childhood atopic dermatitis

In childhood atopic dermatitis the skin becomes dry. Lichenified plaques occur on the cubital fossa and popliteal fossa. Cracks are often found in the auricle area (ear notch). Multiple follicular papules occur on the dry skin of the trunk. This dermatitis is accompanied by intense itching, and it progresses quickly to eczematous crusty lesions.

C) Adolescent and adult atopic dermatitis

The symptoms are similar to those in childhood dermatitis, but the lichenoid plaques progress and enlarge. Rough, dry, dark brown atopic dermatitis occurs all over the upper body. The lesions are more severe and widely distributed than those of childhood dermatitis. Thinning of one-third of the lateral eyebrow is present. In serious cases, diffuse erythema occurs on the face, and a mottled appearance is seen on the neck and upper chest (poikiloderma lesion, dirty neck). Atopic prurigo may occur repeatedly on the extremities.

Pathogenesis:

A defective skin barrier is important for the pathogenesis of atopic dermatitis. Filaggrin gene mutations have been shown to be a key predisposing factor for atopic dermatitis. Dyshidrotic and decreased content of lipid in the horny cell layer, facial pallor, dry skin and multiple small follicular papules are present (atopic skin). The atopic skin is vulnerable to extrinsic irritation; intensely itchy eczema is easily produced by slight irritation, or even by perspiration or contact with animal fur, wool or chemicals.

Immune function abnormality:

Atopic conditions such as allergic asthma, allergic rhinitis, conjunctivitis and atopic dermatitis are found in the family and patient’s history. Patients with atopic dermatitis readily

produce IgE antibodies. There is a high IgE value and positive intracutaneous reactions to various allergens.

3.SEBORRHEIC DERMATITIS

Seborrheic dermatitis occurs on sites of skin where sebum is actively secreted. It is characterized by erythematous lesions accompanied by yellowish scales. This is one of the most common skin diseases, occurring in infants, adolescents and adults. Pityrosporum fungus resident in the skin is a factor in the occurrence.

Clinical features

There is some controversy as to whether seborrheic dermatitis in infants, adolescents and adults is the same disease, because there are minor differences in the clinical courses. Dermatitis appears as follicular eczema on seborrheic sites or intertriginous areas in the head, face, axillary fossa, neck and external genitals. The main features of the lesions are oleaginous scales and erythematous plaques that may be slightly itchy.

In infants, yellowish crusts begin to form on the scalp, eyebrows and forehead. In infants, scaly erythematous plaques may also from 2 to 4 weeks after birth. In most cases they resolve 8 to 12 months after birth. In adolescents and adults, pityroid scales increase and scaly erythematous lesions form on the eyebrows and nasolabial groove. Seborrheic dermatitis is chronic and recurrent.

Pathogenesis:

Triglycerides in sebum are decomposed by microbes resident in the skin to produce free acid. The free acid reacts to cause seborrheic dermatitis. It has been reported that over proliferation of Pityrosporum fungi such as Malassezia furfur aggravates seborrheic dermatitis.

4. NUMMULAR ECZEMA (ECZEMA NUMMULARE)

Round, relatively large eczematous plaques are produced. Nummular eczema may occur at any site on the body, and it tends to progress to autosensitization dermatitis.

Clinical features:

Nummular eczema is frequently seen in the winter. Multiple round eczematous lesions occur, mostly on the extremities (particularly on the extensor surface of the lower extremities), trunk, hips and buttocks. At the periphery of the lesions, serous papules aggregate, in the center

of which exudative erythema is produced with scales on the surface. Most cases are accompanied by intense itching and multiple scars from rubbing and scratching. As the lesions progress, they may produce dispersal eruption to progress into autosensitization dermatitis.

Pathogenesis:

Scratched insect bites may develop urticarial lichens that, when rubbed, progress to nummular eczema, or nummular eczema may result from asteatotic eczema in the elderly, or it may appear as a symptom of atopic dermatitis.

5. LICHEN SIMPLEX CHRONICUS

Synonyms: Lichen Vidal, Circumscribed neurodermatitis

Lichen simplex chronicus is chronic eczema in which round, intensely itchy lichenified plaques form on the nuchal region and extensor aspect of forearms and lower legs of middle-aged women. Pigmentation or depigmentation is present in many cases. Warty eruptions may proliferate. When skin is repeatedly stimulated by the friction of clothing or by metal allergens and the site is rubbed and scratched for a long period of time, it leads to the occurrence of chronic eczematous lesions.

6. AUTOSENSITIZATION DERMATITIS

Multiple small papules and erythematous lesions accompanied by itching occur systemically. They are caused by sudden aggravation of a localized lesion. This dermatitis is caused by endogenous allergic reaction.

Clinical features:

Reddening, swelling and acute aggravation of exudation occur in the lower extremities as primary lesions of autosensitization dermatitis (in 50% to 60% of cases). Two weeks to several weeks after acute aggravation of reddening, swelling and exudation, dispersed eruptions appear. In most cases, the eruptions are erythema, papules, serous papules, or pustules of 2 to 5 mm in diameter dispersed symmetrically on the extremities, trunk, and face. These are often accompanied by intense itching. Systemic symptoms such as fever and fatigue may occur.

Pathogenesis: Autosensitization dermatitis arises from endogenous allergic reaction. Decayed proteins, bacteria, fungal components, and toxins produced by injured tissues in a primary lesion are considered to be the antigens. These may spread through the entire body

such in blood flow from the primary lesion, or they may spread by rubbing or by an accidental dose of the causative substance (orally or intravenously). Autosensitization dermatitis is caused by sensitization against the antigens. The primary lesions can be nummular eczema, stasis dermatitis, contact der-matitis, atopic dermatitis, tinea pedis, or eczematisation of a burn.

7**. STASIS DERMATITIS:**

Oedematous erythema or eczematous plaques form on the lower thighs as a result of varicose veins or congestion in the lower extremities. This disease tends to affect those who work standing, the elderly, and obese women. It may progress to autosensitization dermatitis.

Clinical features:

Edematous erythema occurs on the lower third of the leg, particularly at the upper ankles. The site gradually presents a dark red, scaly, eczematous plaque, pigmentation or whitish atrophie blanche. Minor trauma may induce ulceration. Treatments for stasis dermatitis may induce allergic contact dermatitis as a complication, from the application of an antiseptic or a topical agent. Aggregated serous papules often progress to autosensitization dermatitis.

Pathogenesis:

Congestion in the cutaneous blood vessels is caused by impairment of venous outflow, which leads to bleeding from the capillary vessel loop in the dermal upper layer. Hemosiderins deposit in tissues, and the skin takes on a blackish-brown appearance. The keratinocytes are injured by further impairment of blood flow. Atrophy and scaling occur in the epidermis and there is tendency of ulceration. The skin loses its function as a barrier and becomes more reactive to extrinsic irritation, leading to eczematous lesions in many cases.

8. ASTEATOTIC ECZEMA

Skin dryness (asteatosis, ketosis) occurs when sebum decreases as a result of aging or excess washing. When the horny cell layer is destroyed, the skin is vulnerable to extrinsic irritation. When asteatosis becomes inflamed and eczematous, the condition is called asteatotic eczema. This mostly affects the lower extremities of elderly in dry seasons, especially winter. For those who have a habit of excessively washing or rubbing the body with a towel, lifestyle guidance to avoid such behavior has therapeutic effects. Use of moisturizer prevents skin dryness.

9.WISKOTT-ALDRICH SYNDROME

The three major characteristics of this disorder are immunological deficiency (T-cell dysfunction), thrombocytopenia, and intractable eczema. It is hereditary (X-linked recessive). There are decreased levels of immunoglobulins. Bone marrow transplantation may be performed.

Clinical features:

Wiskott-Aldrich syndrome is characterized by eczema or purpura that occurs in newborn babies within 6 months after birth. The eczema that occurs on the head, face, buttocks and extremities appears similar to atopic dermatitis and seborrheic dermatitis. Purpura is caused by thrombocytopenia. Immune-deficiency-derived infections occur repeatedly as the patient grows. Infections are caused by various factors including bacteria viruses, fungi and protozoa. Impetigo contagiosa (Staphylococcal infection), pseudomonas infection, herpes simplex, varicella (herpes virus infection), and candidiasis are particularly likely to accompany this syndrome, and they tend to become aggravated and persistent. Systemic symptoms such as bloody diarrhoea, internal organ hemorrhage, infection (e.g. tympanitis, paranasal sinusitis, pneumonia) are seen recurrently.

INVESTIGATIONS OF ECZEMA

Patch test

Patch tests detect type IV (delayed or cell-mediated) hypersensitivity. It is common practice for a battery of around 20 common antigens, including common sensitizers such as nickel, rubber and fragrance mix to be applied to the skin of the back under aluminium discs for 48 hours. The sites are then examined for a positive reaction 24 hours later and possibly again a further 24 hours later. The positive test is revealed by the development of an eczematous patch with erythema swelling and vesicles at the site of application.

Patch test reaction is graded in the following degrees,

+	-	Only redness
++	-	Marked redness and swelling
+++	-	Marked redness, swelling and papules
++++	-	redness, oedema and vesicles

Specific IgE levels to antigens can be measured in serum by a specific radio allergic sorbent test (RAST). These are occasionally performed to support diagnosis of atopic eczema and to determine specific environmental allergens, eg. pet dander, horse hair, house dust mite, pollens

and foods.

Prick tests

Prick tests are a way of detecting cutaneous type I (immediate) hypersensitivity to various antigens such as pollen, house dust, mite or dander.

Bacterial and viral swabs for microscopy and culture

These are useful tests in suspected secondary infection skin swabs for bacteriological assessment will invariably reveal the presence of bacteria. In the case of recurrent impetigo in a child with atopic eczema, bacterial swabs should be taken from carrier sites (axillae and groin) from both the affected individual and house hold members.

PREVENTION:

People with eczema should not get the smallpox vaccination due to risk of developing eczema vaccinatum, a potentially severe and sometimes fatal complication.

INTERNAL MEDICINE:

Parangisakkai Chooranam

Ingredients:

❖ Parangichakkai (*Smilax china*)	3 palam (105 gms)
❖ Chukku (*Zingiber officinale*)	3 varagan(12.6gms)
❖ Thippili (*Piper longum*)	3 varagan(12.6gms)
❖ Elam (*Elettaria cardamomum*)	3 varagan(12.6gms)
❖ Vaivilangam (*Embelia ribes*)	3 varagan(12.6gms)
❖ Sannalavanga pattai (*Syzygium aromaticum*)	3 varagan(12.6gms)
❖ Omam (*Carum copticum*)	3 varagan(12.6gms)
❖ Kurosani omam (*Hyoscyamus niger*)	3 varagan(12.6gms)
❖ Sithiramoolaver pattai (*Plumbago zeylanica*)	3 varagan(12.6gms)
❖ Sitrarathai (*Alpinia officinalis*)	3 varagan(12.6gms)
❖ Modi (*Piper longum* root)	3 varagan(12.6gms)
❖ Perarathai (*Alpinia galanga*)	3 varagan(12.6gms)
❖ Siruthekku (*Clerodendrum serratum*)	3 varagan(12.6gms)
❖ Dhaniya (*Coriander sativum*)	3 varagan(12.6gms)
❖ Seeragam (*Cuminum cyminum*)	3 varagan(12.6gms)
❖ Karunseeragam (*Nigella sativa*)	3 varagan(12.6gms)
❖ Athimathuram (*Glycyrrhiza glabra*)	3 varagan(12.6gms)
❖ Vettiveer (*Vettiveria zizanoides*)	3 varagan(12.6gms)
❖ Vilammicham ver(*Plectranthus vetiveriodes*)	3 varagan(12.6gms)
❖ Muthakkasu(*Cyperus rotundus*)	3 varagan(12.6gms)
❖ Kichili kizangu(*Curcuma zodoaria*)	3 varagan(12.6gms)
❖ seeni (sugar)	Equal quantity

INTERNAL MEDICINE

1.PARANGIPATTAI

Botanical name : *smilax china*

Family : liliaceae

Used parts : tuber

Organoleptic character

Taste : inipu

Potency : thatpam

Division : inipu

பொது குணம்

“தாகம் பலவாதந் தாதுநட்டம் புண்பிளவை
மேகங் கடிகிரந்தி வீழ்மூலந் -தேகமுடன்
குட்டை பகந்தமேற் கொள்மனம் போம்பறங்கிப்
பட்டையினை யுச்சரித்துப் பார்” -தேரயர் குணவாகடம்

Action:

Anti syphilitic

Anti vatham

Constituents :

Saponins

,Herbal steroids

SUKKU

Botanical name	:	Zingiber officinale
Family	:	Zingiberaceae
Used parts	:	Rhizome

Organoleptic character

Taste	:	Karppu
Potency	:	veppam
Division	:	Karppu

பொது குணம்

சூலைமந்தம் நெஞ்செரிப்பு தோடமேப் பம்மழலை
மூலம் இரைப் பிருமல் மூக்குநீர்-வாலகப
தோடமதி சாரந் தொடர்வாத குன்மநீர்த்
தோடம் ஆமம்போக்குஞ் சுக்கு.

- அகத்தியர் குணவாகடம்

Action:

Stimulant, Stomachic, Carminative

Constituents:

Calcium sulphate, calcium carbonate, phellandrene, gingerol.

THIPPLI

Botanical name	:	*Piper longum*
Family	:	piperaceae
Used parts	:	dried unripe fruit

Organoleptic character

Taste	:	Karppu
Potency	:	Veppam
Division	:	Karppu

பொது குணம்

"ஆசனவாய் தொண்டை நோய் ஆவரண பித்தமுதல்
நூவசிவிழி காதிவைநோய் நாட்புழுநோய் -வீசிடுவி
யங்கலாஞ்ச் னஞ்சிதையும் அம்பாய்
அழிவிந்தும்பொங்கலாஞ்ச நங்கையர்கோட் போல்"

Chemical constituents :

Resin,Volatile oil,Starch,Fatty oil and Piperine. The fruits contain 1%volatile oil, resin, a waxy alkaloid, piperlongumin.

ELAM

Botanical name	:	*Elettaria cardamomum*
Family	:	Zingiberaceae
Used parts	:	Seed

Organoleptic character

Taste	:	Karppu

Potency : Veppam

Division : Karppu

Action:

Stimulant, Carminative, Stomachic.

Constituents:

Volatile oil,cineol, limonene.

பொது குணம்

“மலவாத மோடு வயிற்றுக் கொதிப்பு
சலமூறல் வாயினிப்பு தாகம்-சலபேதி
வேர்க்குந் தலைநோய் மிகுரூட்சை ஐயமிவை
போக்குஞ்சிற் றேலம் புகல்.

- அகத்தியர் குணவாகடம்

VAIVILANGAM

Botanical name : *Embelia ribes*

Family : Primulaceae

Used parts : Seed

Organoleptic character

Taste : Kaippu

Potency : Veppam

Division : Karppu

Action:

Anthelmintic, Carminative, Stomachic, Stimulant.

Constituents:

Embolic acid, volatile and fixed oil, resin, alkaloid

பொது குணம்

வாதகுரு வாயுடம்பு வாதமறுந் தப்படியே
வேதையுலே வேண்டினாற்-பாத

விரதமுதற் கையாட லென்றா லிசையும்

வர்னனை நீமனத்தில் வை.

- தேரன் வெண்பா

SITRARATHAI

Botanical name : *Alpinia officinarum*

Family : Zingiberaceae

Used parts : Rhizome

Organoleptic character

Taste : Karppu

Potency : Veppam

Division : Karppu

Action:

Expectorant, Febrifuge, Stomachic.

Constituents:

Galangol, galangin.

பொது குணம்

வாதபித் தங்கரப்பான் வாத சிரோரோகஞ்

சேர்ந்தகப முத்தோடஞ்சீதமோடு-நேர்ந்தசுரம்

மற்றரத்தைக் காட்டி வருமிரும லுந்தீரும்

சிற்றரத்தை வன்மருந்தால் தேர்.

- தேரயர் குணவாகடம்

PERARATHAI

Botanical name : *Alpinia galanga*

Family : Zingiberaceae

Used parts : Rhizome

Organoleptic character

Taste	:	Karppu
Potency	:	Veppam
Division	:	Karppu

Action:

Expectorant, Febrifuge, stomachic.

Constituents:

Campheride, galangin, alpinin.

பொது குணம்

அரத்தை கபத்தை அறுக்குங்கால் ஓட்டுங்
சிரத்திலுறும் ஈளையைச் சிதைக்கும்-இரைத்துவரும்
பித்ததோ டத்தைப் பிறவலிப்பை மாற்றிவிடும்
உற்றசர்வ வல்விடம் போக்கும்.

- அகத்தியர் குணவாகடம்

OMAM

Botanical name	:	*Carum copticum*
Family	:	Apiaceae
Used parts	:	Seed

Organoleptic character

Taste	:	Karppu
Potency	:	Veppam
Division	:	Karppu

Action:

Stomachic, Antispasmodic, Carminative, Antiseptic

Constituents:

Volatile oil, thymol.

பொது குணம்

சீதசுரங் காசஞ் செரியாமந் தம்பொருமல்
பேதியிரைச் சல்கடுப்பு பேராமம்-ஓதிருமல்
பல்லொடுபல் மூலம் பகமிவைநோ யென்செயுமோ
சொல்லொடுபோம் ஓமமெனச் சொல்.

- அகத்தியர் குணவாகடம்

KUROSANI OMAM

Botanical name : *Hyoscyamus niger*

Family : Solanaceae

Used parts : Seed

Organoleptic character

Taste : Karppu and Siru Kaippu

Potency : Veppam

Division : Karppu

Action:

Hypnotic, Sedative, Anodyne, Mild diuretic.

Constituents:

Fixed oil, gum, starch, hyoscyamine,hyoscine.

பொது குணம்

வெகுமூத் திரம்வாதம் வீரியநட் டம்புண்
உகுபேதி யுட்கடுப்பி னோடே- மிகுகரப்பான்
தீராக் கபமிவைபோம் செய்யகு ரோசானியேன்றால்
வாரா மயக்கமுறு மால்.

- அகத்தியர் குணவாகடம்

SANNALAVANGAPATTAI

Botanical name : Cinnamomum verum

Family : Laurales

Used parts : Bark

Organoleptic character

Taste	:	Karam with Inippu
Potency	:	Seetham
Division	:	Inippu

Action:

Stimulant, Carminative, Aphrodisiac.

Constituents:

Cinnamaldehyde, cinnamon oil, cinnamic acid, coumaric acid.

பொது குணம்

சன்னலவங்க ப்பட்டை தாங்குளிர்ச்சி யுண்டாக்கும்
இன்னுமிரத் தக்கடுப்பை யீர்க்குங்காண் எ முன்னமுறும்
உந்திக் கடுப்பகற்றும் உண்மூலப் புண்போக்கும்
கந்தமிகு பூங்குழலே காண்.

- அகத்தியர் குணவாகடம்

CHITHIRAMOOLAM

Botanical name	:	*Plumbago indica*
Family	:	plumbaginaceae
Used parts	:	Root

Organoleptic character

Taste	:	Karppu,kaipu
Potency	:	Veppam
Division	:	Karppu

Actions

Tonic, stomachic, antiperiodic

Chemical constiuents

Plumbagin,Tannins, steroids, glucoside, triterpenes

பொது குணம்

கட்டிவிர ணங்கிரந்தி கால்கள் அரையாப்புக்
கட்டிச்சூ லைவீக்கங் காழ்மூலம் - முட்டிரத்தக்
கட்டுநீ ரேற்றங் கனத்த பெருவயிறும்
அட்டுங் கொடிவேலி யாம்

- அகத்தியர் குணவாகடம்

SIRUTHEKKU

Botanical name : *Clerodendrum serratum*

Family : Verbenaceae

Used parts : Root

Organoleptic character

Taste : Kaippu, thuvarppu

Potency : Veppam

Division : Karppu

Action:

Stimulant, Sedative.

பொது குணம்

கண்டுபா ரங்கியேனுஞ் சிறுதேக குண்டேல்
காலேங்கே பித்தமேங்கே கபந்தா ன்ங்கே

- கோரக்கர் குணவாகடம்

KOTHAMALLI

Botanical name : *Coriandrum sativum*

Family : Apiaceae

Used parts : Seed

Organoleptic character

Taste : Karppu

Potency : Seetham Veppam

Division : Karppu

Action:

Stomachic, Carminative, Stimulant.

Constituents:

Volatile oil, vitamin C.

பொது குணம்:

“கொத்துமல்லி வெப்பம் குளிர்காய்ச்சல் பித்தமந்தங்
சர்த்திவிக்கல் தாகமொடு தாதுநட்டம் - கத்தியேழும்
வாத விகார்மடர் வங்கர்த்த விரணம்
பூதலத்தில் லாதகற்றும் போற்று.

-அகத்தியர் குணவாகடம்

SEERAGAM

Botanical name : *Cuminum cyminum*

Family : Apiaceae

Used parts : Seed

Organoleptic character

Taste : Karppu, inippu

Potency : Seetham

Division : Inippu

Action:

Carminative, Stimulant, Astrigent, Stomachic.

Constituents:

Thymene, cuminol, cymene.

பொது குணம்

பித்தமெனும் மந்திரியை பின்னப் படுத்தியவன்
சத்துருவை யுந்துறந்து - மத்தனெனும்
ராசனையு வென்று நண்பை பாலப்படுத்தி

போசனகு டாரிசெயும் போர்.

- தேரன் வெண்பா

KARUNSEERAGAM

Botanical name	:	*Nigell sativa*
Family	:	Rananculaceae
Used parts	:	Seed

Organoleptic character

Taste	:	Karppu
Potency	:	Veppam
Division	:	Karppu

Action:

Stomachic,Carminative,Diuretic

Constituents:

Volatile oil,fixed oil

பொது குணம்

கருஞ்சீ ரகத்தான் கரப்பனொடு புண்ணும்
வருஞ்சிராய்ப் பீநசமு மாற்றும் - அருந்தினால்
காய்ச்சல் தலைவலியுங் கண்வலியும் போமுலகில்
வாய்ச்ச மருந்தெனவே வை.

-அகத்தியர் குணவாகடம்

ATHIMATHURAM

Botanical name	:	*Glycyrryhiyza glabra*
Family	:	Fabaceae
Used parts	:	Root

Organoleptic character:

Taste	:	Inippu

Potency : seetham

Division : Inippu

Action:

Tonic,Laxative,Demulcent

Constituents:

glycyrrhizic,glycyrrhetinic acid

பொது குணம்

கத்தியரி முப்பிணியால் வருபுண் தாகங்
கண்ணோய் உன் மாதம்விக்கல் வலிவெண் குட்ட

-அகத்தியர் குணவாகடம்

VILAMICHUVEER

Botanical name : *Chrysopogon zizanioides*

Family : Poaceae

Used parts : Root

Organoleptic character:

Taste : kaippu

Potency : seetham

Division : inippu

Action:

Diaporetic,diuretic,febrifuge

Constituents:

Volatile oil.

VETTIVER

Botanical name : Plectranthus vettiveroits

Family : Lamiaceae

Used parts : Root

organoleptic character:

Taste	:	kaippu
Potency	:	Seetham
Division	:	inippu

Action:

Anti pithaa,Refrigerant

Constituents:

Voloatile oil,

பொது குணம்

பித்தவி தாகம் சகிகா மிலங்கறைப் பித்தமனற்
றத்திடு குட்டஞ் சிரநோய் களமடி தாதுநட்ட
மத்தம நற்புண் டனப்புண்வன் மூர்ச்சை வரிவிழிநோய்
வித்திர மேகத்தின் கட்டியும் போம் வெட்டி வேரினுக்கே.

-அகத்தியர் குணவாகடம்

KICHILIKIZANGU

Botanical name	:	*Cyperus rotundus*
Family	:	Cyperaceae
Used parts	:	Leaf,rhizom

Organoleptic character:

Taste	:	Kaippu
Potency	:	Veppam
Division	:	Karppu

Action:

Stimulant,Carminative,Aromatic

Constituents:

Curcumin,albuminoids

பொது குணம்

"(ஓட்டும்)நற் கிச்சிலியி ணொண்கிழங் குங்கபமும்
பூட்டுமுட மும்புண்ணும் போம்".

-அகத்தியர் குணவாகடம்

VELLAI SAKKARAI (SUGAR)

பொதுகுணம்:

"சீனி சர்க்கரைக்குத் தீராத வன்சுரமுங்
கோனிக்கும் வாதத்தின் கூட்டுறவும் ஏனிற்கும்
வாந்தி யொடுகிருமி மாறாத விக்கலுமே
போந்திசையை விட்டுப் புழுண்டு"

Indication:

Vatha suram,vathanoi ,vikkal

EXTERNAL MEDICINE:

KARAPPAN ENNAI

Ingredients:

- Poovarasu 10 palam(350 gms)
- Sengathari 10 palam(350 gms)
- Nilavagai 10 palam(350 gms)
- Kandangathiri 10 palam(350 gms)
- Boothakarappan 10 palam(350 gms)
- Poonaikali 10 palam(350 gms)
- Milagu 1kazhanju(5.1gms)
- Karunseeragam 1kazhanju(5.1gms)
- Karkolam 1kazhanju(5.1gms)
- Vellaipoondu 1kazhanju(5.1gms)
- Vasambu 1kazhanju(5.1gms)
- Sathakuppai 1kazhanju(5.1gms)
- Valamburikai 1kazhanju(5.1gms)
- Parangipattai 1kazhanju(5.1gms
- Amanakku ennai 1 Padi (1344ml)
- Elumichai pala saru 1 Padi (1344ml)
- Vellattu pal 1 Padi (1344ml)

POOVARASU

Botanical name : *Thespesia populnea*

Family : Malvaceae

Used parts : Leaf,flower,seed,root,park

Organoleptic character:

Taste : Kaippu

Potency : Veppam

Division : Karpu

Action:

Althelmintic,Depurative

Constituents:

Musilage

பொது குணம்

நூற்றாண்டு சென்றதொரு நூண்பூ வரசம்வேர்
தூறாண்டகுட்டைத் தொலைக்குங்காண் - வீறெப்
பழுத்தைலை விதைபூப்பட்டையிவை கண்டாற்
புழுத்தபுண்வி ரேசனமும் போம்.

-அகத்தியர் குணவாகடம்

KANDANGATHIRI

Botanical name : *Solanum surattense*

Family : Solanaceae

Used parts : Leaf,flower,fruit,seed,root

Organoleptic character:

Taste : Karppu

Potency : Veppam

Division : Karppu

Action:

Diuretic,expectorant,carminative

Constituents:

Carpesterol,Solanocarpine

பொது குணம்

காச சுவாசங் கதித்தக்ஷய மந்தமனல்
வீசுசுரஞ் சன்னி விளைதோடம் - ஆசுறுங்கால்
இத்தரையு ணிற்கா, எரிகாரஞ் சேர்க்கண்டங்
கத்திரியுண் டாமாகிற் காண்.

-அகத்தியர் குணவாகடம்

POONAIKALI

Botanical name	:	*Mucuna pruriens*
Family	:	Fabaceae
Used parts	:	Seed,root,

Organoleptic character:

Taste	:	Thuvarppu
Potency	:	Thatpam
Division	:	Inippu

Action:

Astringent,diuretic,nervine tonic

Constituents:

Mucunine.

பொது குணம்

தழுதளைநாற் ற்த்தோடு சாரிரத்தப் போக்கும்
பழுதுபுரி கின்றகரப் பானும் - அழுதெகுந்
தாலமிசை வித்துவுமாஞ் சாற்றற் கரும்பூனைக்
காலி விதையைக் கழ்று.

-அகத்தியர் குணவாகடம்

SATHAKUPPAI

Botanical name : *Anithum graveolens*

Family : Apiaceae

Used parts : Leaf,flower,seed

Organoleptic character:

Taste : Inippu

Potency : Veppam

Division : Karppu

Action:

Carminative,stimulant,emmenagogue

Constituents:

Anethine,apiol,phellandrenne

பொது குணம்

வாதமொடு சூதிகா வாதம் சிரசுநோய்
மோதுசெவி நோய்கபநோய் மூடுசுரம் - ஓதுகின்ற
மூலக் கடுப்பு முதிர்பினசம் போகும்
ஞாலஸ் சதகுப்பை நாடு. -அகத்தியர் குணவாகடம்

VALAMPURIKAI

Botanical name : *Helicteres isora*

Family : Malvaceae

Used parts : Root,park

Organoleptic character:

Taste : Kaippu

Potency : Veppam

Division : Karppu

Action:

Demulcent,astringent

பொது குணம்

பூதபை சாசம் பொறுக்கொணா நேந்திரநோய்
கீத மிகுசெவிநோய் கேவல்விக்கல் - ஓதுகுளிர்
தோடமொடு மேகங்க்கூன் சொன்னவையே லாம்நடுங்கி
ஓட வலம்புரியை யுன்.

-அகத்தியர் குணவாகடம்

AMANAKU

Botanical name	:	*Ricinus communis*
Family	:	Euphorbiaceae
Used parts	:	Seed

Organoleptic character:

Taste	:	Kaippu
Potency	:	Veppam
Division	:	Karppu

Action:

Anti vadha,Galactagogue

Constituents:

Curcin.

பொது குணம்

வாதத் தொடக்கை வரவொட்டா மற்படிக்குக்
காதத்துக் கப்பாற் கடியுமே - சூதத்தைப்
பேர்ண்ட்ப் பந்திக்கும் பேதிக்கு நோய்க்காட்டை
யேரண்ட் மென்பதினியே.

-அகத்தியர் குணவாகடம்

ELUMICCHAI

Botanical name	:	*Citrus limon*
Family	:	Rutaceae
Used parts	:	Leaf,seed,fruit

Organoleptic character:

Taste	:	Pulippu
Potency	:	Veppam
Division	:	Karppu

Action:

Refrigerant,Carminative

பொது குணம்

தீதெலு மிச்சங்காய் டேர்முத்தோ டத்தையுமுள்
வாதகப சூலையையும் மாகொடிய - சாதியெனுஞ்
சர்த்திகுன் மத்தையுமுள் தங்கமருந் திட்டதையும்
பித்தவெப்பை யுந்தணிக்கும் பேசு.

-அகத்தியர் குணவாகடம்

SENGATHTHAARIPATTAI

Botanical name	**:**	*capparis sepiazia*
Family	**:**	capparidaceae

Organoleptic character

Suvai	**:**	Kaipu
Thanmai	**:**	Veppam
Pirivu	**:**	Kaarppu

Chemical Constituents:

Alcoloids, Glycosides, Carbohydrates, Anthocyanins, Sterols, Terpenes.

NILAAVAARAI

Botanical name	**:**	*Cassia senna*
Family	**:**	csesalpinaceae

Organoleptic character

Suvai	**:**	kaippu
Thanmai	**:**	Veppam

Pirivu : Kaarppu

General properties:

“நிலாவாரை யின்குணந்தான் நீகேள் மயிலே
பலமூல வாயுவெப்பு பாவைச் -சிலகிரந்தி
பொல்லாத குன்மம் பெருமுமலக் கட்டுமுதல்
எல்லா மகற்றுமென எண்”

VASAMBU

Botanical name : *Acorus calamus*
English Name : Sweet flag
Family : Araceae

Organoleptic character

Suvai : Kaarppu
Thanmai : Veppam
Pirivu : Kaarppu

பொதுகுணம்:

“பாம்பாதி நஞ்சற் புதப்புண்ண வலிவிடபாகங் குன்மம்
சூம்பா ரிரத்தபித் தம்முக நாற்றம்வன் சூலைசன்னி
வீம்பாம்பை காசம் பிலீகஞ் சிலிபதம் வறிருமல்
தாம்பாங் கிருமி யிவையேகு மாசிவ சம்பினையே”

-தேரையர் குணவாகடம்

Chemical constituents

Asarone, Calamenol, Calamene, Eugenol, Methyl Eugenol, Pinene, Camphene, Calamol, Azulene .

Actions

Stimulant, Stomachic, Antiperiodic, Carminative, Emetic, Disinfectant, Germicide

VELLAI POONDU

Botanical name : *Allium sativum*
Family : Liliaceae

Organoleptic character:

Suvai	**:**	Kaarppu
Thanmai	**:**	Veppam
Pirivu	**:**	Kaarppu

பொதுக்குணம்:

சன்னியோடு வாதந் தலைநோவு தாள்வலி
மன்னிவரு நீர்க்கோவை வன்சீதம் - அன்னமே
உள்ளுள்ளி கண்பாய் உளைமூல ரோகமும் போம்
வெள்ளுள்ளி தன்னால் வெருண்டு.

-அகத்தியர்குணவாகடம்

CHEMICAL CONSTITUENTS:

Allicin, allin, ajoene, vinyldithins, S-allylcysteine, phytoallexinallinase, alistatin, glycosides, arginine, diallyldisulphide, dipropyl disulphide,

ACTIONS:

Diuretic, Tonic, Alterative, Carminative, Stomachic, Expectorant, Anthelmentic

MILAGU

Botanical name	**:**	*piper nigram*
Family	**:**	piparaceae

Organoleptic character:

Suvai	**:**	Kaarppu
Thanmai	**:**	Veppam
Pirivu	**:**	Kaarppu

பொது குணம்

தீயாகி யெங்கும் திரியுமதை யாவத்து
மோயாம லெப்படியு முண்டாக்காற் - பாயாது

போந்திமிர்வா தங்கிரந்தி புண்ணீரும்
மன்னவர்க்கும் காந்திமெய்வா தச்சலுப்பை

-அகத்தியர்குணவாகடம்

Chemical constituents

Piperine, Piperidine, piperetine, Chavicine.

Actions

Stimulant, acrid, carminative, rubefacient, antiperiodic, resolvent, anti vadha, antidote.

PRIMARY OBJECTIVE:

To compare the efficacy of *Parangisakkai Chooranam*" (Internal) and *Karappan Ennai* (External) with and without *Yoga*m in *Karappan.*

SECONDARY OBJECTIVE:

1. To study the Siddha basic principles, Envagai Thaervu in the patients of Karappan .
2. To study the effectiveness of Yogam in the management of Karappan along with trial drug.
3. To perform Biochemical analysis of the trial drug.

STUDY DESIGN:

An open clinical trial

STUDY PLACE:

Ayothidoss Pandithar Hospital,

National Institute of Siddha,

Tambaram Sanatorium, Chennai-47.

STUDY PERIOD:

18 months

SAMPLE SIZE:

40 patients (20 patients Trial drugs and Yogam, 20 patients only with trial drugs)

TRIAL DRUGS:

Internal Medicine: *Parangisakkai Chooranam*

Source of raw drugs:

The required raw drugs for the preparation of *Parangisakkai Chooranam* were procured from the Country Medicine shop, Parrys, Chennai.

Raw drugs Identification and authentication:

These ingredients were identified and were authenticated by Dr.D.Aravind M.Sc, Asst Prof, Medicinal Botanist at NIS, Tambaram sanatorium, Chennai.

Ingredients:

Parangichakkai (*Smilax china*)	3 palam (105 gms)
Chukku (*Zingiber officinale*)	3 varagan(12.6gms)
Thippili (*Piper longum*)	3 varagan(12.6gms)
Elam (*Elettaria cardamomum*)	3 varagan(12.6gms)
Vaivilangam (*Embelia ribes*)	3 varagan(12.6gms)
Sannalavanga pattai (*Syzygium aromaticum*)	3 varagan(12.6gms)
Omam (*Carum copticum*)	3 varagan(12.6gms)
Kurosani omam (*Hyoscyamus niger*)	3 varagan(12.6gms)
Sithiramoolaver pattai (*Plumbago zeylanica*)	3 varagan(12.6gms)
Sitrarathai (*Alpinia officinalis*)	3 varagan(12.6gms)
Modi (*Piper longum* root)	3 varagan(12.6gms)
Perarathai (*Alpinia galanga*)	3 varagan(12.6gms)
Siruthekku (*Clerodendrum serratum*)	3 varagan(12.6gms)
Dhaniya (*Coriander sativum*)	3 varagan(12.6gms)
Seeragam (*Cuminum cyminum*)	3 varagan(12.6gms)
Karunseeragam (*Nigella sativa*)	3 varagan(12.6gms)
Athimathuram (*Glycyrrhiza glabra*)	3 varagan(12.6gms)
Vettiveer (*Vettiveria zizanoides*)	3 varagan(12.6gms)
Vilammicham ver(*Plectranthus vetiveriodes*)	3 varagan(12.6gms)
Muthakkasu(*Cyperus rotundus*)	3 varagan(12.6gms)
Kichili kizangu(*Curcuma zodoaria*)	3 varagan(12.6gms)
seeni (sugar)	Equal quantity

PURIFICATION OF RAW DRUGS:

Purification of *parangi pattai*:

First powder the bark. Take a pot with milk and its mouth is covered with white cloth. Then the powder over it and close it with another vessel. Gently heat it for 3 hours then dry and grind it.

Purification of *sukku:*

Soaked in lime water for three hours and powder it.

Purification of *thippili*

Soaked in lime juice, dried it and powdered. *(Ref: Marunthusei iyalum kalaum)*

Purification of *elam*

Dried it and powdered it. *(Ref: Marunthusei iyalum kalaum)*

Purification of *vaivilangam*

Dried it and powdered it. *(Ref: Marunthusei iyalum kalaum)*

Purification of *seeregam*

Dried it and powdered it. *(Ref: Marunthusei iyalum kalaum)*

Purification of *omam*

Dried it and powdered it. *(Ref: Marunthusei iyalum kalaum)*

Purification of *kurosani omam*

Dried it and powdered it. *(Ref: Marunthusei iyalum kalaum)*

Purification of *dhaniya*

Dried it and powdered it. *(Ref: Marunthusei iyalum kalaum)*

Purification of *sannalavanga pattai*

Dried it and powdered it. *(Ref: Marunthusei iyalum kalaum)*

Purification of *karunseeragam*

Soked in lime water for three hours then dried and powdered
(Ref:*SigichaRathinaTheepam*)

Purification of *vettiver*

Wash it in freash water, dry it and powdered it. *(Ref: Marunthusei iyalum kalaum)*

Purification of *vilamicham veer*

Wash it in freash water, dry it and powdered it. *(Ref: Marunthusei iyalum kalaum)*

Method of preparation:

Each one of the above mentioned drugs will be purified ,ground into fine powder and mixed together . To this quantity equal amount of powdered sugar will be added and mixed well. *(Reference book : Chikicha Ratna Deepam (Pg No:116)*

Purification of Chooranam

Whole chooranam is subjected to pitaviyal.

Dosage : 4.2 gms, twice a day

Adjuvant : Hot water

Duration : 40days

EXTERNAL MEDICINE:

Karappan Ennai

Ingredients:

I.

- Poovarasu 10 palam(350 gms)
- Sengathari 10 palam(350 gms)
- Nilavagai 10 palam(350 gms)
- Kandangathiri 10 palam(350 gms)
- Boothakarappan 10 palam(350 gms)
- Poonaikali 10 palam(350 gms)

These above drugs are ground into coarse powder and (1thooni) 21.5 litres of water is added to it and boiled .It is reduced to ½ of the part(i.e 10.75 litres).

II.

- Milagu 1kazhanju(5.1gms)
- Karunseeragam 1kazhanju(5.1gms)
- Karkolam 1kazhanju(5.1gms)
- Vellaipoondu 1kazhanju(5.1gms)
- Vasambu 1kazhanju(5.1gms)
- Sathakuppai 1kazhanju(5.1gms)
- Valamburikai 1kazhanju(5.1gms)
- Parangipattai 1kazhanju(5.1gms)

These above ingredients are ground with goat's milk.

III.

- Amanakku ennai 1 Padi (1344ml)
- Elumichai pala saru 1 Padi (1344ml)
- Vellattu pal 1 Padi (1344ml)

Method of preparation

All the above ingredients (mentioned in I,II.III) are mixed together and boiled into consistency of mezhugu .

Duration: 40 days

Drug storage:

The trial drug *Parangisakkai Chooranam* is stored in clean and dry glass bottles and *Karappan Ennai* is stored in clean and dry narrow mouthed bottles.

Dispensing:

The Powder is given in packet. Oil is given in pet bottles.

PARANGI CHAKKAI

THIPPILI

ELAM

SATHAKUPPAI

SANNALAVANGA PATTAI

OMAM

KUROSANI OMAM

CHITHIRAMOOLA VER PATTAI

SITRARATHI

PERARATHAI

MODI

SIRUTHEKKU

DHANIYA

SEERAGAM

ATHIMATHURAM

VETTIVER

VILAMICHAM VER

NATTU SARKARAI

POONAIKALI **NILAVAGAI**

ELUMICHAI PALA CHARU

SATHAKUPPAI

VELLAI PONDU

VELLATTU PAL

AMANAKKU ENNAI

BIO - CHEMICAL ANALYSIS OF PARANGICHAKKAI CHOORANAM

ANALYSED AT NATIONAL INSTITUTE OF SIDDHA

S.No	EXPERIMENT	OBSERVATION	INFERENCE
1.	Physical Appearance of sample	Dark brown	
2.	**Solubility:** a. A little of the sample is shaken well with distilled water. b. A little of the sample is shaken well with con. HCl/ Con. H_2So_4.	Soluble in distilled water	**Presence of Silicate**
3.	**Action of Heat:** A small amount of the sample is taken in a dry test tube and heated gently at first and then strong.	White fumes evolved	**Presence of Carbonate**
4.	**Flame Test:** A small amount (500mg) of the sample is made into a paste with con. HCl in a watch glass and introduced into non-luminous part of the Bunsen flame.	No Bluish green flameappeared.	Absence of Copper
5.	**Ash Test:** A filter paper is soaked into a mixture of sample and dil. cobalt nitrate solution and introduced into the Bunsen flame and ignited	No Yellow coloured flame	Absence of Sodium

Preparation of Extract: 5 gm of Parangicahkkai Chooranam is weighed accurately and placed in a 250ml clean beaker and added with 50ml of distilled water. Then it is boiled well for about 10 minutes. Then it is cooled and filtered in a 100ml volumetric flask and made up to 100ml with distilled water.

S.No	EXPERIMENT	OBSERVATION	INFERENCE
I. TEST FOR ACID RADICALS			
1.	**Test For Sulphate:** a.2ml of the above prepared extract is taken in a test tube to this added 2ml of 4% dil. ammonium oxalate solution	Cloudy appearance present	**Presence of Sulphate**
2.	**Test For Chloride:** 2ml of the above prepared extracts is added with 2ml of dil-HCl is added until the effervescence ceases off.	Cloudy appearance absence	**absence of Chloride**
3.	**Test For Phosphate:** 2ml of the extract is treated with 2ml of dil.ammonium molybdate solution and 2ml of con.HNo3	Mild yellow appearance	Phosphate mildy present
4.	**Test For Carbonate:** 2ml of the extract is treated with 2ml dil. magnesium sulphate solution.	No Cloudy appearance	**absence of Carbonate**
5	**Test For Nitrate:** 1gm of the substance is heated with copper turning and concentrated H2So4 and viewed the test tube vertically down.	No characteristic changes	Absence Of borate
6	**Test For Lead:** 2ml of the extract is added with 2ml of dil.potassium iodine solution.	No Yellow Precipitate is obtained.	Absence of Lead
7	**Test For Copper:** **a.** One pinch(50mg) of substance is made into paste with con. HClin a watch glass and introduced into the non-luminuous part of the flame.	No Blue colour flame No Blue colour precipitate formed.	Absence of Copper

8.	**Test For Nitrite:** 3drops of the extract is placed on a filter paper, on that-2 drops of dil.acetic acid and 2 drops of dil. Benzidine solution is placed.	No characteristic changes	Absence of Nitrite
9.	**Test For Borate:** 2 Pinches (50mg) of the substance is made into paste by using dil.sulphuric acid and alcohol (95%) and introduced into the blue flame.	Bluish green colour flame did not appear.	Absence of Borate
II. TEST FOR BASIC RADICALS			
1.	**Test For Lead:** 2ml of the extract is added with 2ml of dil.potassium iodine solution.	No Yellow Precipitate is obtained.	Absence of Lead
2.	**Test For Copper:** **a.** One pinch(50mg) of substance is made into paste with con. HClin a watch glass and introduced into the non-luminuous part of the flame.	No Blue colour flame No Blue colour precipitate formed.	Absence of Copper
3.	**Test For Aluminium:** To the 2ml of extract dil.sodium hydroxide is added in 5 drops to excess.	No characteristic changes	Absence of Aluminium
4.	**Test For Iron:** a.To the 2ml of extract add 2ml of dil.ammonium solution b.To the 2ml of extract 2ml thiocyanate solution and 2ml of con HNo3 is added	No Red colour appeared	Absence of Iron

5.	**Test For Zinc:** To 2m1 of the extract sodium hydroxide solution is added in drops to excess.	White precipitate is not Formed	Absence of Zinc.
6.	**Test For Calcium:** 2ml of the extract is added with 2ml of 4% dil.ammonium oxalate solution	Cloudy appearance and white precipitate was obtained.	**absence of Calcium**
7.	**Test For Magnesium:** To 2ml of extract dil.sodium hydroxide solution is added in drops to excess.	White precipitate was obtained	presence of Magnesium
8.	**Test For Ammonium:** To 2ml of extract 1 ml of Nessler's reagent and excess of dil.sodium hydroxide solution are added.	No Brown colour appeared	Absence of Ammonium
9.	**Test For Potassium:** A pinch (25mg) of substance is treated of with 2ml of dil.sodium nitrite solution and then treated with 2ml of dil.cobalt nitrate in 30% dil.glacial acetic acid.	No Yellowish precipitate was obtained.	Absence of Potassium
10.	**Test For Sodium**: 2 pinches (50mg) of the substance is made into paste by using HCl and introduced into the blue flame of Bunsen burner.	No Yellow coloured flame appeared	Absence of Sodium
11.	**Test For Mercury**: 2ml of the extract is treated with 2ml of dil.sodium hydroxide solution.	No yellow precipitate was obtained.	Absence of Mercury
12.	**Test For Arsenic:** 2ml of the extract is treated with 2ml of dil.sodium hydroxide solution.	No brownish red precipitate was obtained.	Absence of Arsenic
III. MISCELLANEOUS			

1.	**Test For Starch:** 2ml of extract is treated with weak dil.Iodine solution	No Blue colour developed	Absence of Starch
2.	**Test For Reducing Sugar:** 5ml of Benedict's qualitative solution is taken in a test tube and allowed to boil for 2 minutes and added 8 to 10 drops of the extract and again boil it for 2 minutes. The colour changes are noted.	Brick Red colour developed	**absence of Reducing sugar.**
3.	**Test For The Alkaloids**: a) 2ml of the extract is treated with 2ml of dil.potassium lodide solution. b) 2ml of the extract is treated with 2ml of dil.picric acid. c) 2ml of the extract is treated with 2ml of dil.phosphotungstic acid.	No Red colour developed	abs**sence of Alkaloid**
4.	**Test For Tannic Acid:** 2ml of extract is treated with 2ml of dil.ferric chloride solution	No black precipitate was obtained	Absence of Tannic acid
5.	**Test For Unsaturated Compound:** To the 2ml of extract 2ml of dil.Potassium permanganate solution is added.	Potassium permanganate is not decolourised	Absence of unsaturated compound
6.	**Test For Amino Acid:** 2 drops of the extract is placed on a filter paper and dried well. 20ml of Biurette reagent is added**.**	No Violet colour developed	Absence of Amino acids

7.	**Test For Type Of Compound:** 2ml of the extract is treated with 2 ml of dil.ferric chloride solution.	No Green colour developed No Red colour developed No Violet colour developed No blue colour developed	Absence of oxy quinole epinephrine and pyro catechol. Anti pyrine, Aliphatic amino acids and Meconic acid are absent. Apomorphine, Salicylate and Resorcinol are absent. Morphine, Phenol cresol and hydro quinone are absent

RESULT:

The bio-chemical analysis Gandhaga mezhugu of had shown the presence of Silicate, Carbonate, Chloride, Calcium, Sulphide, Sulphate, Reducing sugars and Alkaloids.

Subject Selection:

Patients reporting with symptoms of inclusion criteria was subjected to screening test and documented using screening proforma

Inclusion Criteria:

- Age: 20 – 60 years
- Sex: Both Male and Female
- Clinical features like; Itching, Oozing, Erythema, Papules, Vesicles, Scaling, Hyperpigmentation
- Willing to give specimen of blood for investigation when required.
- Willing for admission and study in IPD for 10 days or willing to attend OPD
- Willing to take photograph before and after treatment

Exclusion Criteria:

- Diabetes mellitus
- Hypertension and other Cardiac ailments
- Narcotic addicts
- Pregnancy and Lactation
- Evidence of any skin disease other than eczema
- Varicose eczema.

Withdrawal Criteria:

- Intolerance to the drug and development of adverse drug reactions during drug trial.
- Poor patient compliance and defaulters.
- Patient unwilling to continue in the course of clinical trial.
- Any drastic changes occurring in haematological finding during treatment period.
- Increased in severity of symptoms

Tests and Assessments:

A. Clinical assessment

B. Siddha system of examination

C. Laboratory investigations

A. Clinical Assessment:

- Itching

- Erythematous lesions with oedema
- Presence of macule / Papule / Vesicle / Pustule
- Oozing , scaling, lichenification of skin
- Hyper / hypo depigmentation
- Appearance of new lesions
- Size of the lesions

B. **SIDDHA SYSTEM OF EXAMINATION**:

En Vagai Thervugal:

1. Naadi.
2. Sparisam
3. Naa
4. Niram
5. Mozhi
6. Vizhi
7. Malam
8. Moothiram - Neerkkuri

Neikkuri

C. LABORATORY INVESTIGATIONS:

Blood:

Hb

Total WBC Count

DC- Polymorphs

Lymphocytes

Eosinophils

Monocytes

Basophils

Total RBC count

ESR

Blood sugar (F) (PP)

RENAL FUNCTION TESTS:

Urea

Creatinine

Uric acid

LIVER FUNCTION TESTS:

Serum total bilirubin

Direct bilirubin

Indirect bilirubin

Serum Alkaline phosphatase

SGOT

SGPT

LIPID PROFILE:

HDL:

LDL:

VLDL:

Total Cholesterol

TGL:

URINE:

Albumin

Urine sugar- (F) (PP)

Deposits

DATA COLLECTION FORMS:

Required information will be collected from each patient by using the following forms

Form l **:** Screening Proforma

Form lI **:** Clinical Research Form

Form llI **:** Laboratory Investigation Proforma

Form lV **:** Drug compliance Form

Form V **:** Patient information Form

Form VI **:** Informed Consent Form

Form VII **:** Pharmocovigilance/Withdrawl form

Form VIII **:** Dietary advice Form

Outcome [EASI SCORE]:

The outcome is mainly assessed by reduction in symptoms like itching, oozing etc. Improvement assessed by EASI SCORE

Eczema Area and Severity Index(EASI)Score	Before treatment	After treatment

EASI score

An EASI score is a tool used to measure the severity and extent of atopic eczema (**E**czema **A**rea and **S**everity **I**ndex).

There are four body regions:

1.Head and neck 2.Upper limbs

3.Trunk 4.Lower limbs

Intensity: The intensity of rednes, thickness, scratching, lichenification of the eczema is assessed as none (0), mild (1), moderate (2) and severe (3). Half scores are allowed. The four

intensity scores are added up for each of the four body regions to give subtotals A1, A2, A3, A4.

Area: The percentage area affected by eczema is evaluated in the four regions of the body. In each region, the area is expressed as nil (0), 1-9% (1), 10-29% (2), 30-49% (3), 50-69% (4), 70-89% (5) or 90-100% (6).

Caculation for area: Each of the body area scores is multiplied by the area affected (C1,C2,C3,C4)

Total score: The EASI score is C1 + C2 + C3 + C4.

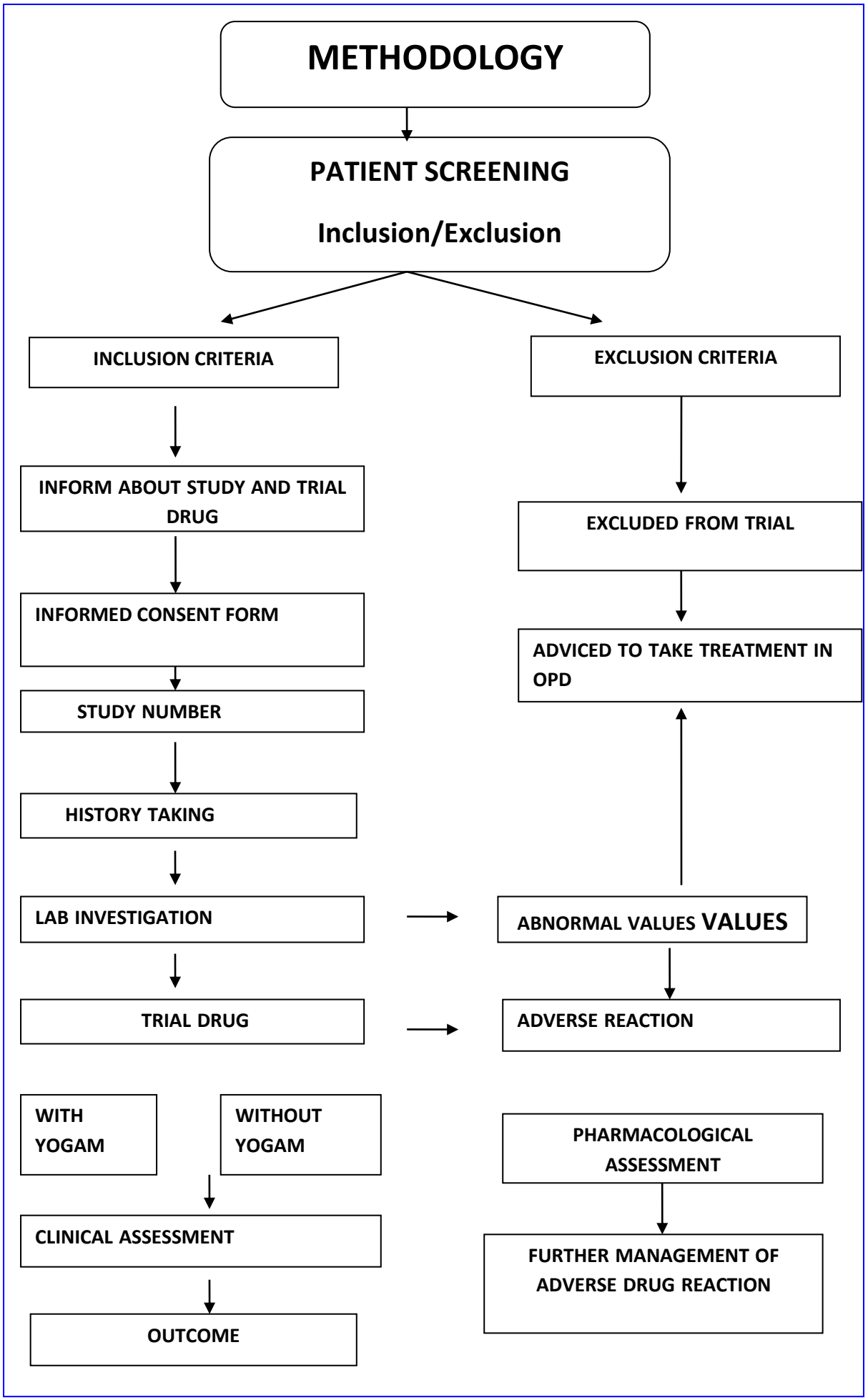
The SCORAD index

A = spread.../100

B = intensity.../18

C = subjective symptoms.../20

SCORAD calculation: A/5 + B/2 + C


METHODOLOGY
PATIENT SCREENING
Inclusion/Exclusion
INCLUSION CRITERIA
EXCLUSION CRITERIA
INFORM ABOUT STUDY AND TRIAL DRUG
EXCLUDED FROM TRIAL
INFORMED CONSENT FORM
ADVICED TO TAKE TREATMENT IN OPD
STUDY NUMBER
HISTORY TAKING
LAB INVESTIGATION
ABNORMAL VALUES VALUES
TRIAL DRUG
ADVERSE REACTION
WITH YOGAM
WITHOUT YOGAM
PHARMACOLOGICAL ASSESSMENT
CLINICAL ASSESSMENT
FURTHER MANAGEMENT OF ADVERSE DRUG REACTION
OUTCOME

Study enrollment:

Patients reporting at the OPD with the clinical symptoms of Karappan was examined clinically for enrolling in the study based on the inclusion and exclusion criteria.

The patients who are enrolled was informed (Form-V) about the study, trial drug, possible outcomes and the objectives of the study in the language and terms understandable to them and the informed consent would be obtained in writing from them in the consent form (Form VI).

All these patients was given unique registration card in which the patients' Registration number of the study, Address, Phone number and Doctor's phone number etc. will be given, so as to report easily should any complications arise.

Complete clinical history, complaints, duration, examination findings and laboratory investigations -- was recorded in the prescribed Proforma. Screening Form- I will be filled up: Form – II and Form –III was used for recording the patient's history, clinical examination of symptoms, signs and laboratory investigations respectively. Patients was advised to take the trial drug and appropriate dietary advice was given according to the patient`s perfect understanding.

Conduct of the Study:

The day before the treatment purgation with *Agasthiyar Kuzhambu – 130 mg* at early morning in empty stomach with *Sangangkuppi juice* will be given for balancing the deranged Uyir thathu on the first day of the treatment.

From the next day onwards, the trial drugs *"Parangisakkai Chooranam "* was internally given continuously for 40 days and *"Karappan Ennai"* will be applied externally for 40 days. OPD patients was advised to visit the hospital once in 7 days for 40 days. At each clinical visit, clinical assessment is done and prognosis is noted. For 20 patients, the drug is given for 40 days along with Yogam.

Laboratory investigations are done on the first and the 40 day of the trial. After the trial period, the patients was advised to visit the OPD for follow-up for further two months to observe any recurrence. Defaulters was not allowed to continue the trial will be withdrawn from the study.

Data Analysis:

After enrolling the patient in the study, a separate file was maintained for each and every patient and all forms and other information was kept in the file. The screening forms was filed separately. The data entry was monitored by the Head of the department and faculty members of dept. of Sirappu Maruthuvam. All collected data was statistically analysed by Sr. Research Officer

(Statistics) for logical errors and incompleteness of data to avoid any bias. No modification in the results was permitted for unbiased reports. Then final report was generated.

Adverse Effect/Serious Adverse Effect Management:

If the trial patient develops any adverse reactions, he/she would be immediately withdrawn from the trial, informed to the pharmacovigilance committee of NIS and referred to the concerned OPD of National Institute of Siddha for further management.

Ethical Issues:

1. To prevent any infection, while collecting blood sample from the patient, only disposable syringes, disposable gloves, with proper sterilization of lab equipments was used.
2. No other external or internal medicines will be used other than the trial drug, for treating Karappan. There was no infringement on the rights of patient.
3. The data collected from the patient will be kept confidential. The patient was informed about the diagnosis, treatment and follow-up.
4. After the consent of the patient (through consent form) they was enrolled in the study.
5. Informed consent was obtained from the patient explaining to him/her in the language understandable to the patient.
6. Treatment was provided free of cost.
7. In case of any serious adverse reactions, the patients was given alternative treatment at the National Institute of Siddha.

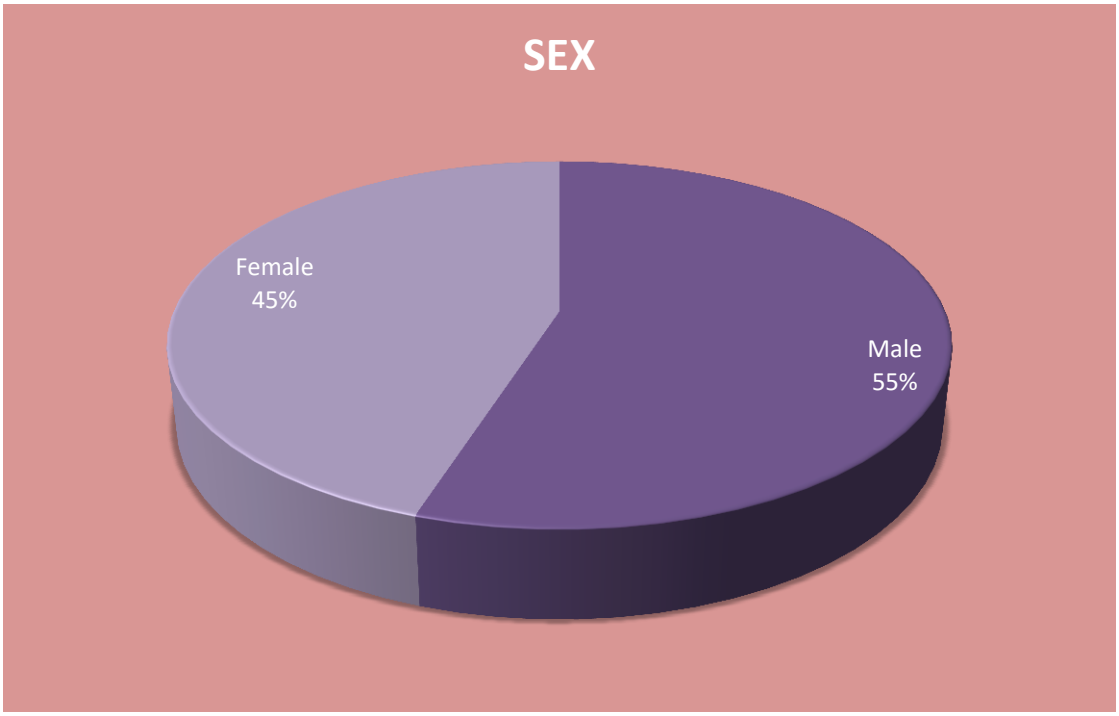
OBSERVATION AND RESULTS

The observation and results have been tabulated under the following headings.

- Sex distribution
- Age distribution
- Kaalam distribution
- Socio economic status
- Occupational status
- Family History
- Dietary habits
- Paruvakaalam
- Thinai
- Yakkai Ilakkanam (Physical Constitution)
- Gunam
- Duration of illness
- Clinical features
- Site of lesion
- Distribution of mukkutram
- Udar Kattugal
- En Vagai thervugal
- Neikkuri
- Statistical analysis

1. SEX DISTRIBUTION

Sl No	Sex	No of Cases	Percentage
1	Male	22	55%
2	Female	18	45%



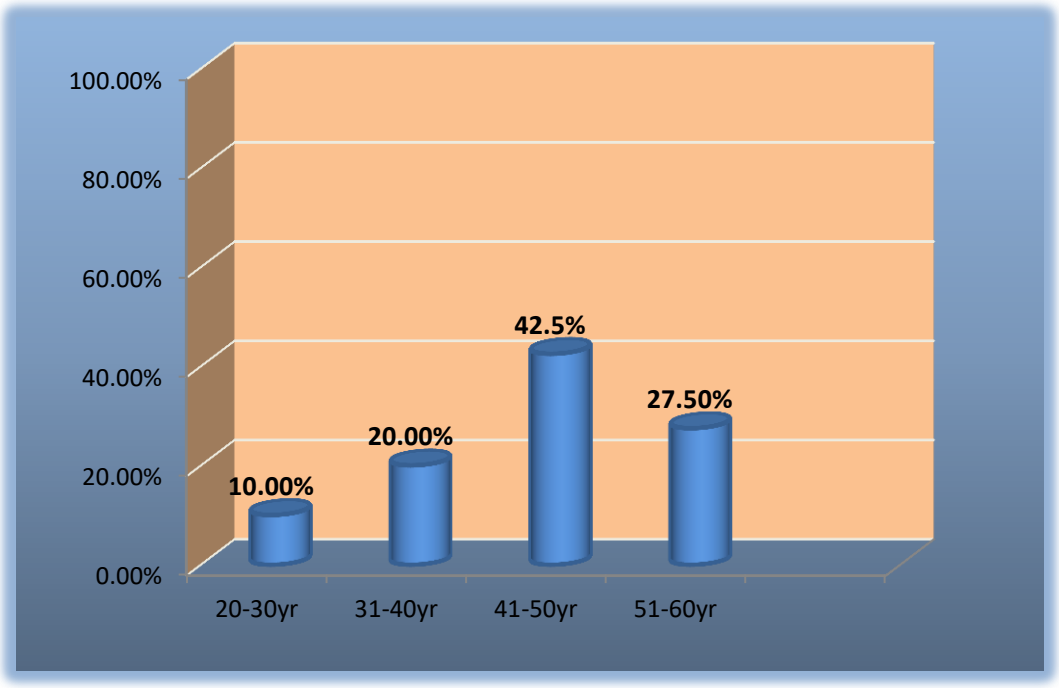
Observation

Among the 40 patients included in this study, 55% were male and 45% female.

2. AGE DISTRIBUTION

Sl. No	Age	No of Cases	Percentage
1	20-30	4	10%
2	31-40	8	20%
3	41-50	17	42.5%
4	51-60	11	27.5%

AGE DISTRIBUTION



Observation

Among the 40 patients selected for this study, maximum numbers of patients 42.5% were in the age group of 41 to 50yrs, 27.5% were in the age group of 51 to 60yrs, 20% were in the age 31 to 40yrs and 10% were in the age of 20 to 30yrs.

3.AYUL KAALAM DISTRIBUTION (According to Age)

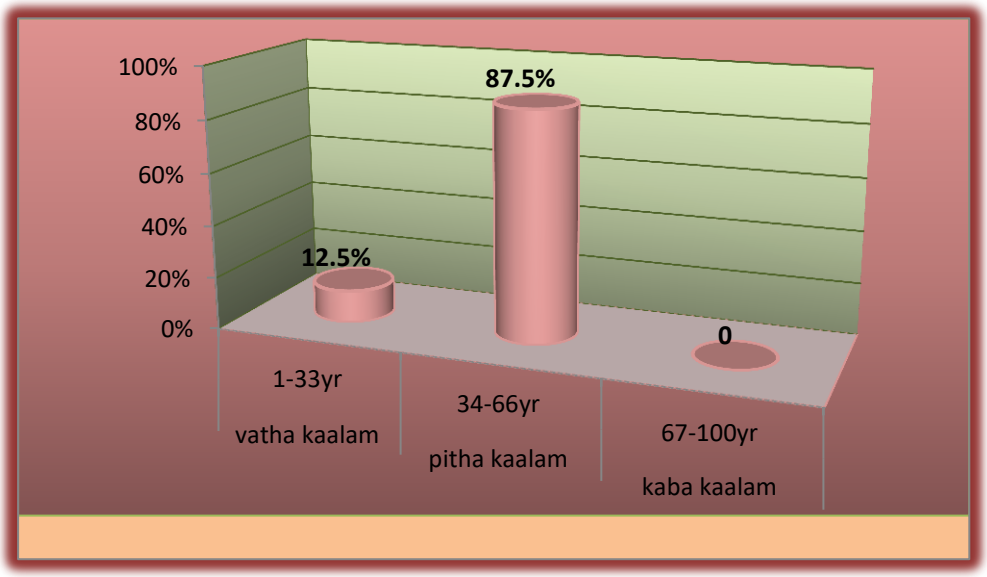
In Siddha literature human life has been divided into three periods as follows

1 Vaatha kaalam
2 Pitha kaalam
3 Kaba kaalam

The duration of each period is said to be 33 years

Sl No	Kaalam	No of Cases	Percentage
1	Vatha Kaalam (1-33 Years)	5	12.5%
2	Pitha Kaalam (34-66 years)	35	87.5%
3	Kaba Kaalam (67-100 years)	0	0%

KAALAM DISTRIBUTION

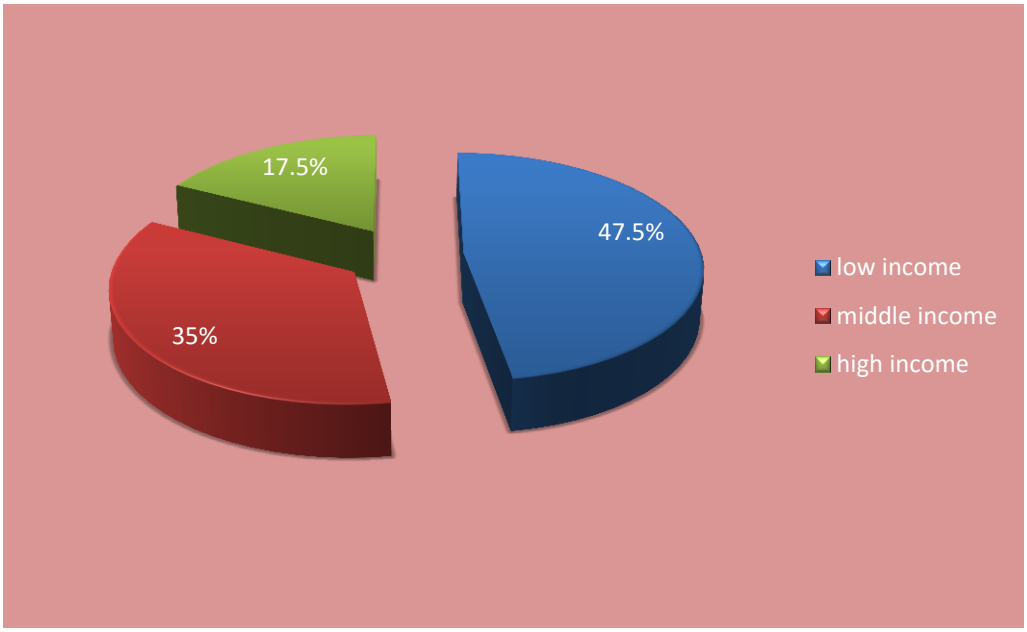


Observation

Out of 40 patients, 35 patients were reported in Pitha kaalam, the remaining 5 in Vatha kaalam.

4.SOCIO ECONOMIC STATUS

Sl. No	ECONOMIC STATUS	No of Cases	Percentage
1	Low income	19	47.5%
2	Middle income	14	35%
3	High income	7	17.5%



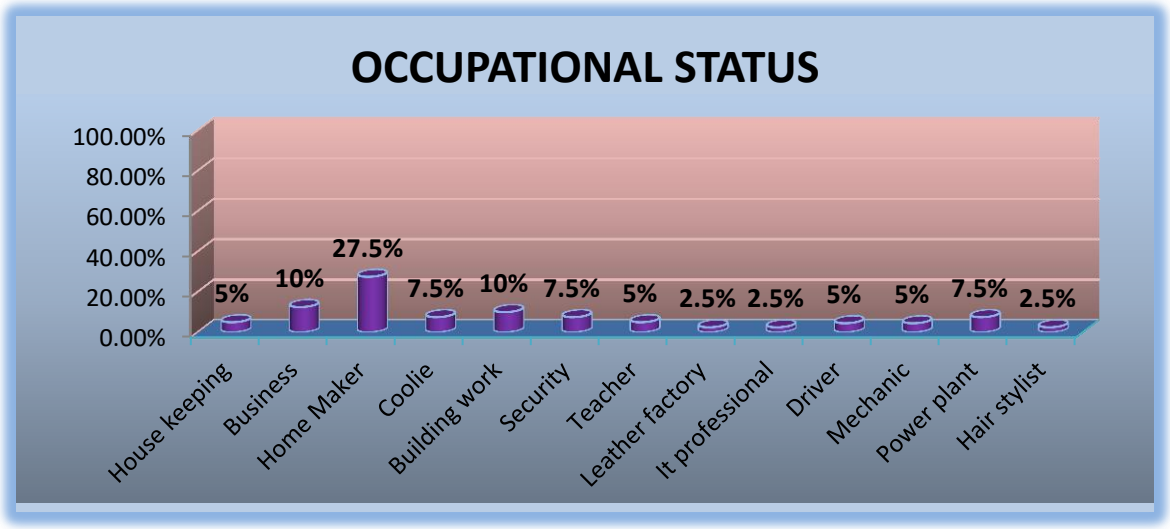
Observation

Out of 40 patients, 47.5% patients were under low income group, 35% patients were middle income group, the remaining 17.5% patients were under high income group.

5. OCCUPATIONAL STATUS

Sl. No	Nature of Work	No. of Cases	Percentage
1	Bank Employee	1	2.5 %
2	House keeping	2	5%
3	Business	4	10 %
4	Home Maker	11	27.5 %
5	Coolie	3	7.5%
6	Building work	4	10 %
7	Security	3	7.5%
8	Teacher	2	5 %
9	Leather factory	1	2.5 %
10	IT professional	1	2.5%
11	Driver	2	5 %
12	Mechanic	2	5%

13	Power plant	3	7.5%
14	Hair stylist	1	2.5%

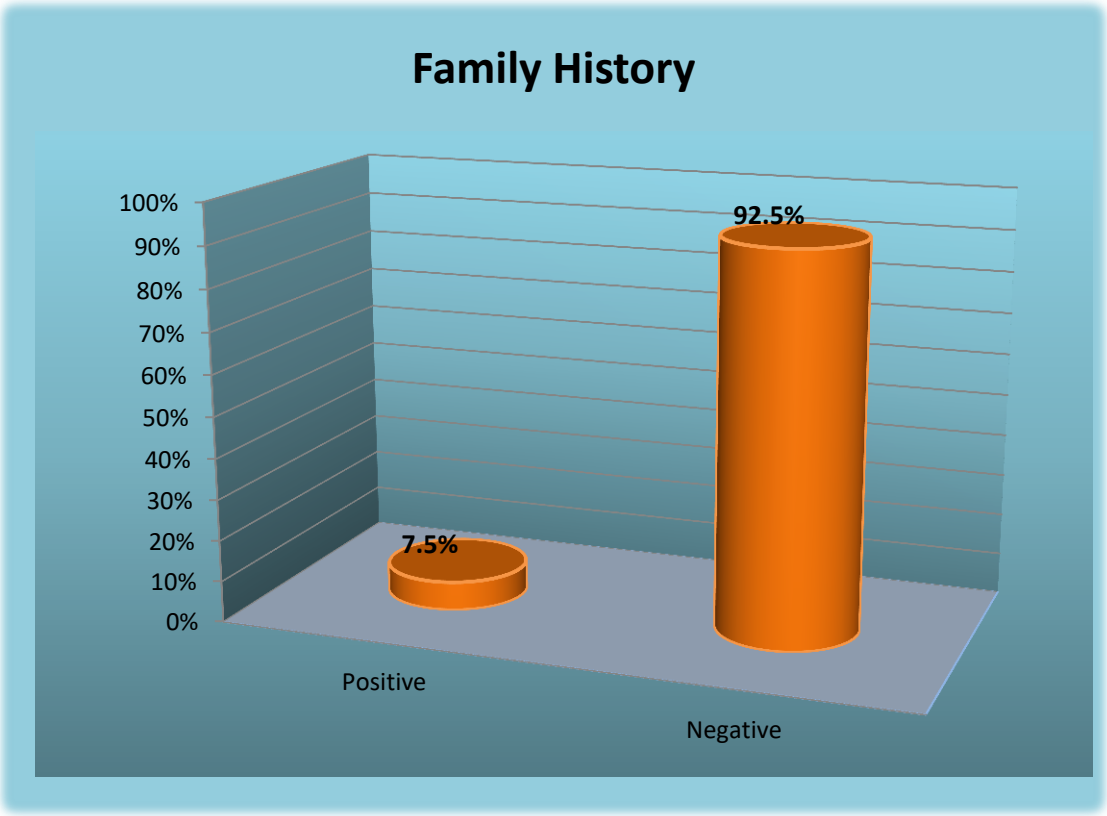


Observation

Among 40 patients 27.5% cases were home makers, 10% were at building work, 10% patients were in business , 7.5% of them were coolie, security, powerplant employee, 5% were house keeping, mechanic, driver, teacher, ,2.5% of them were leather factory employee,bank employee, hair stylist, IT proffessional.

6. **FAMILY HISTORY**

Sl. No	Criteria	No of Cases	Percentage
1	Family History (+ve)	3	7.5%
2	Family History (-ve)	37	92.5%

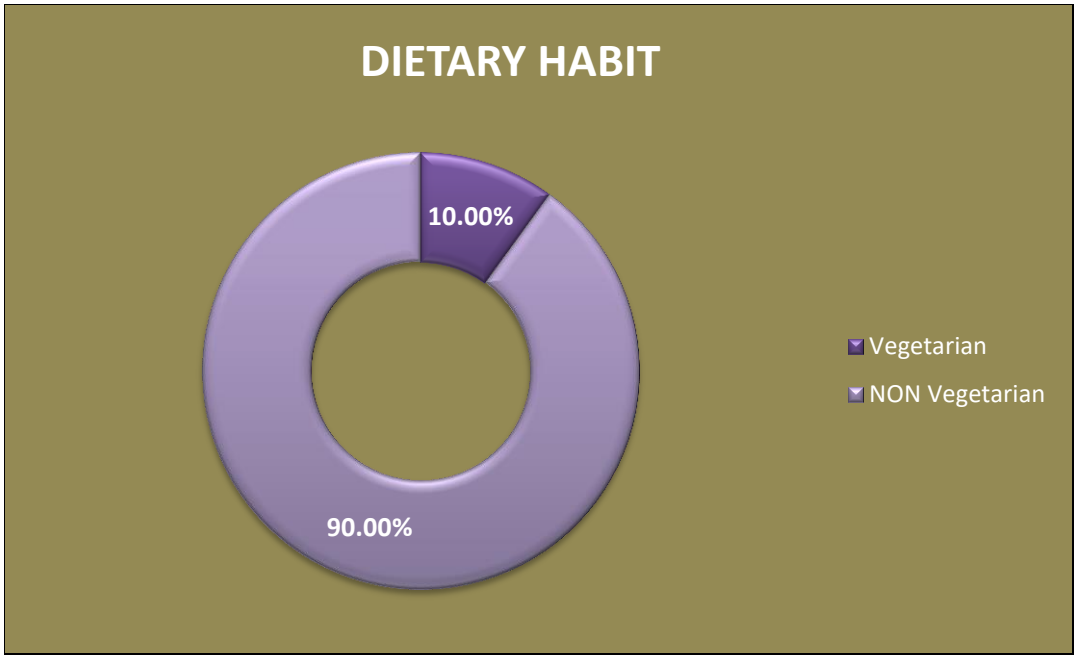


Observation

Among 40 patients , 92.5% of the patients showed no family history, 7.5% showed positive family history.

7. DIETARY HABITS

Sl. No	Dietary Habits	No of Cases	Percentage
1	Vegetarian	4	10%
2	Non Vegetarian	36	90%

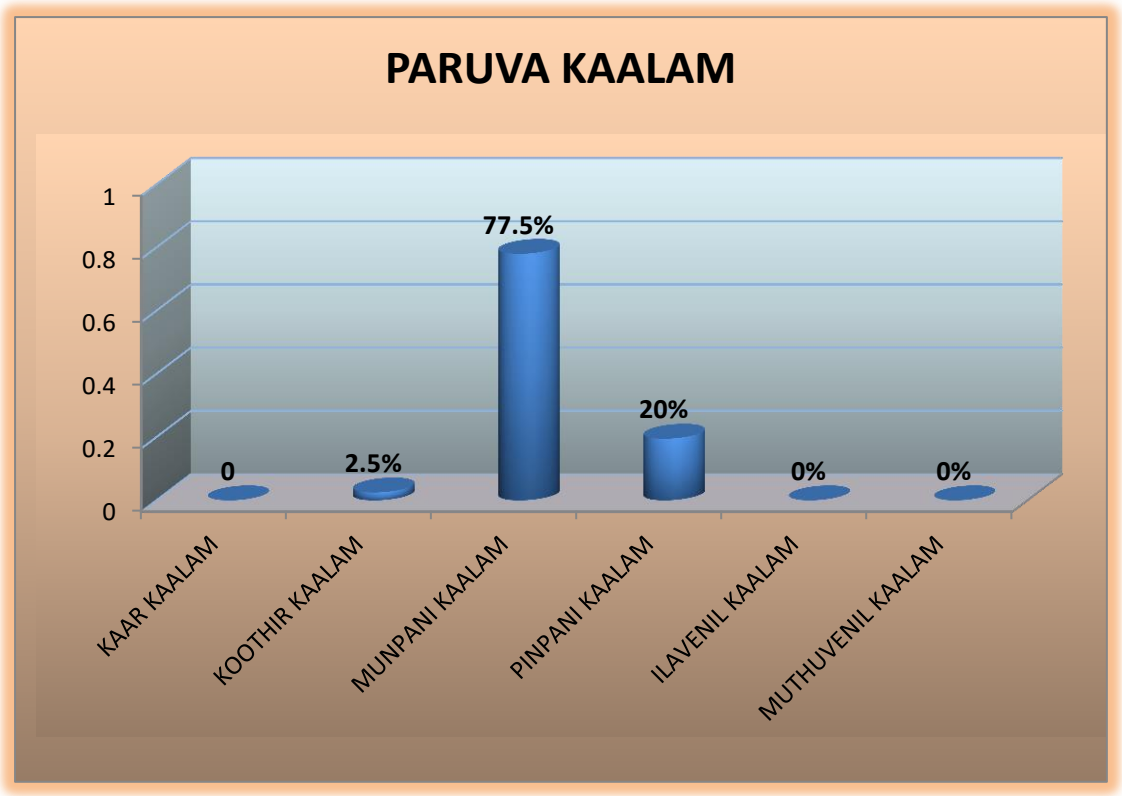


Observation

90% cases are non-vegetarian.

8. PARUVA KAALAM

Sl No.	Paruva Kaalam	No. of Cases	Percentage
1	Kaar kaalam (Aavani & Purattasi)	0	0
2	Koothir Kaalam (Aippasi&Kaarthigai)	1	2.5%
3	Munpani Kaalam (Margazhi& Thai)	31	77.5%
4	Pinpani Kaalam (Maasi&Panguni)	8	20%
5	Elavenil Kaalam (Chithirai & Vaikasi)	0	0
6	Muthuvenil Kaalam (Aani&Aadi)	0	0

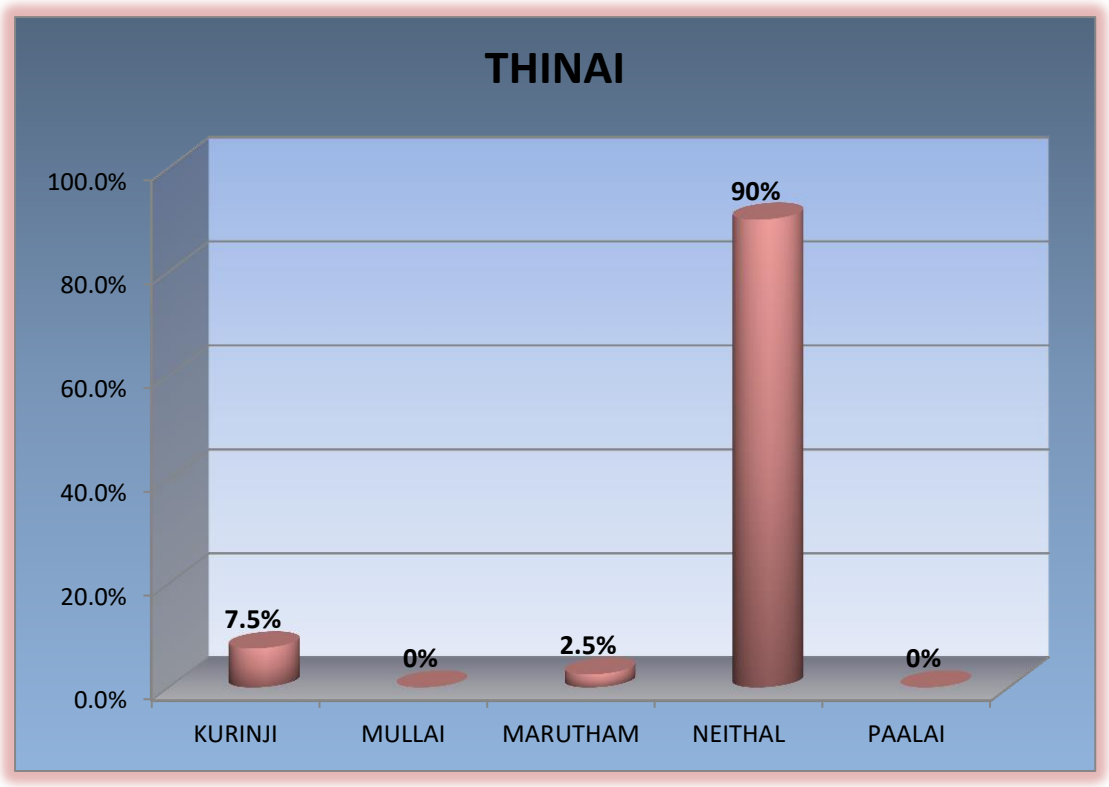


Observation

Among the 40 patients admitted for this study, the highest number of patients(77.5%) reported in Munpani Kaalam, 20% are reported in Pinpani Kaalam and 2.5% are reported in koothir kaalam.

9. THINAI REFERENCE

Sl. No	Thinai	No. of Cases	Percentage
1	Kurinji (Hill Area)	3	7.5%
2	Mullai (Forest Area)	0	0
3	Marutham (Fertile Land)	1	2.5%
4	Neithal (Coastal Area)	36	90%
5	Palai (Desert Land)	0	0



Observation

Among the 40 patients, 90% of the patients were from Neithal (Coastal Area), 7.5% were from Kurinji(hill area) and the remaining 2.5% are from Marutham (Fertile Land).

10. YAAKAI ILAKKANAM

Sl. No	Yaakai Ilakkanam	No. of Cases	Percentage
1	VathaUdal	0	0%
2	PithaUdal	0	0%
3	KabaUdal	0	0.00%
4	ThonthaUdal	40	100%

Observation

In 40 patients 100% had Thontha Udal

11. GUNAM (QUALITY AND CHARACTERS)

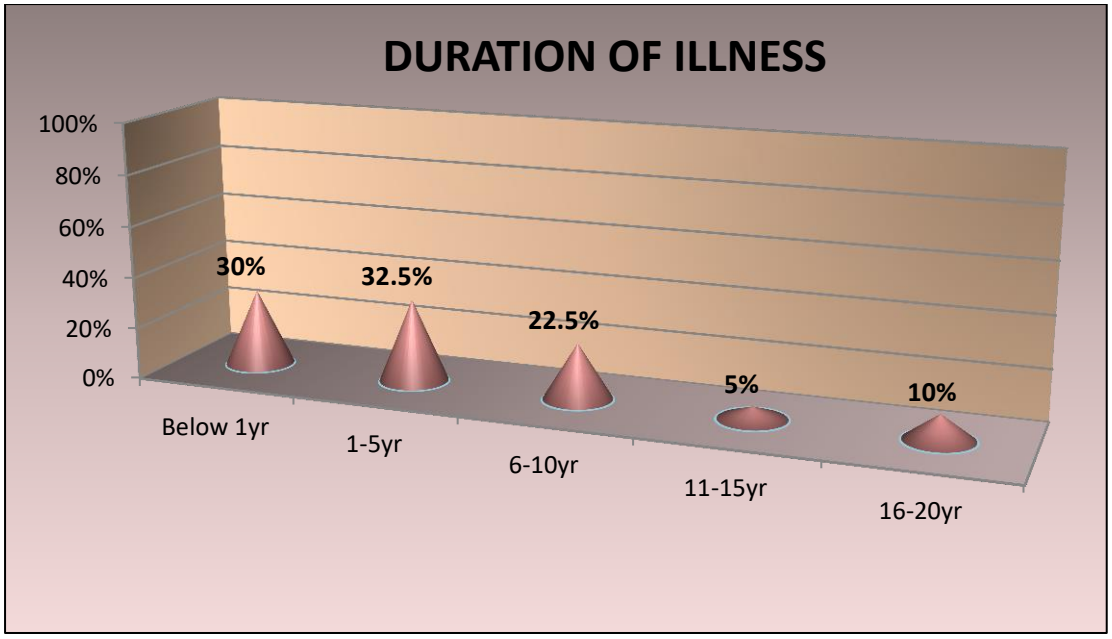
Sl. No	Gunam	No of Cases	Percentage
1	Satthuva Gunam	0	0%
2	Raso Gunam	40	100%
3	Thamo Gunam	0	0%

Observation

In 40 patients 17.5% of them had sathuva gunam 62.5% patients had rasogunam and 20% had Thamo gunam.

12. DURATION OF ILLNESS

Sl. No	Duration of Illness	No of Cases	Percentage
1	> 1 Year	12	30%
2	1-5 Years	13	32.5 %
3	6-10 Years	9	22.5 %
4	11-15 Years	2	5%
5	16-20 Years	4	10%

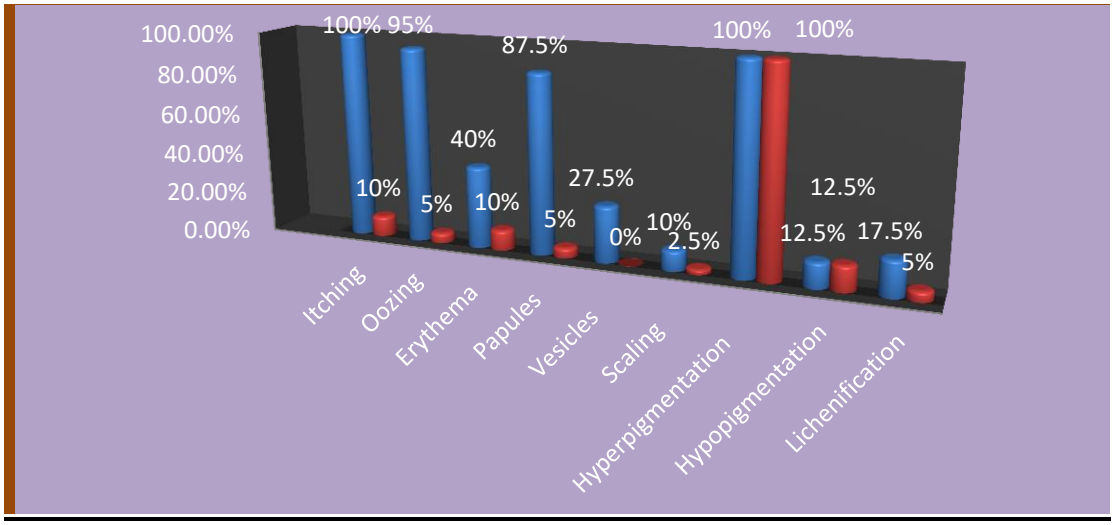


Observation:

Among the 40 patients the maximum number of patients (32.5%) had the duration of illness between 1-5 years , 30% of them had > 1 Year, 22.5% were 6-10 yrs, 10% were <15 yrs, 5% were 11-15 yrs.

13. CLINICAL FEATURES

Sl. No	Clinical Features	No of Cases		Percentage	
		BT	AT	BT	AT
1	Itching	40	4	100%	10%
2	Vesicle formation	11	0	27.5%	0%
3	Oozing	38	2	95%	5%
4	Papules	35	2	87.5%	5%
5	Scaling	4	1	10%	2.5%
6	Erythema	16	4	40%	10%
7	Hyperpigmentation	40	40	100%	100%
8	Hypopigmentation	5	5	12.5%	12.5%
9	Lichenification	10	2	17.5%	5%

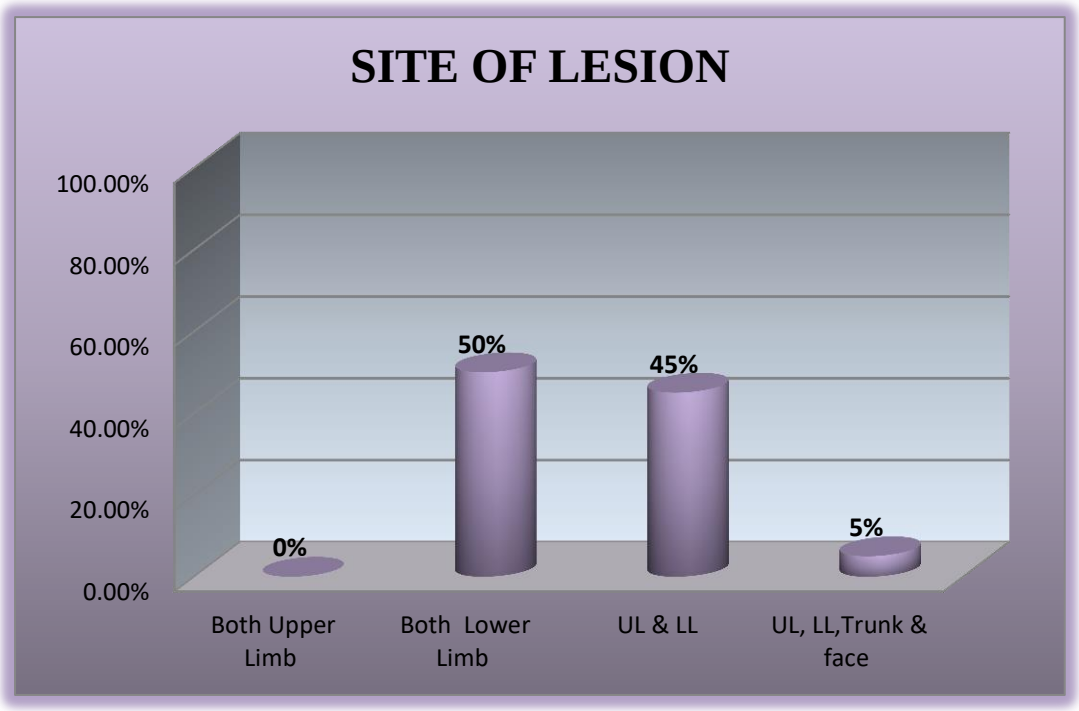


Observation:

Among 40 patients included in the study, before treatment 100% of cases suffered from itching and hyperpigmentation , 95% of them had oozing , 87.5% of them had papules, 40% of them had erythema, 27.5% of them had vesicles 17.5% of them had lichenification, 12.5% of them had hypopigmentation and 10% of them had scaling, after treatment 10% of cases had itching, 100% of them had hyper pigmentation,5% of them had oozing , 5% of them had papules, 10% of them had erythema, none of them had vesicles, 5% of them had lichenification, 12.5% of them had hypopigmentation and 2.5% of them had scaling.

14. SITE OF LESION

Sl. No	Site of Lesion	No of Cases	Percentage
1	Both Upper Limb	0	0%
2	Both Lower Limb	20	50%
3	Upper limb & Lower limb	18	45%
4	Upper limb, Lowerlimb, Trunk and face	2	5%



Observation

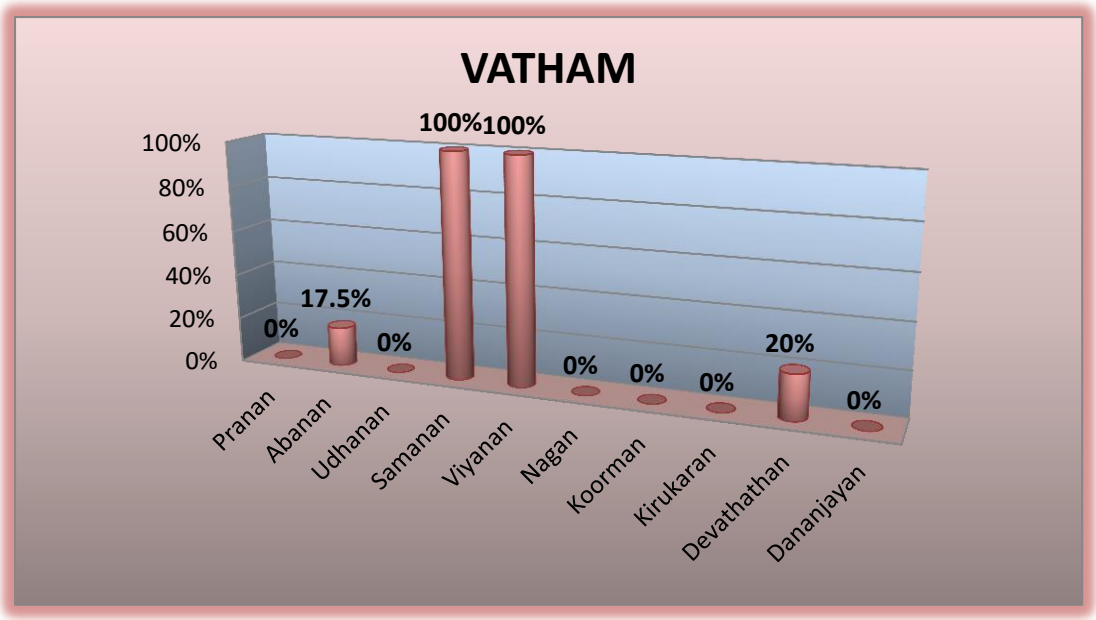
Among 40 patients 60% had the lesion in both lower limb, 35% had the lesion both in upper limb and in lower limb and 7.5% had Upper limb, Lowerlimb, Trunk and face

15.DISTRIBUTION OF UYIRTHATHUKKAL

The derangement of Vaatham, Pitham and Kabam in Karappan is as follows

VAATHAM

Sl. No	Classification of Vaatham	No of Cases	Percentage
1	Praanan	0	0%
2	Abaanan	7	17.5%
3	Udhaanan	0	0%
4	Samaanan	40	100%
5	Viyaanan	40	100%
6	Naagan	0	0%
7	Koorman	0	0%
8	Kirukaran	0	0%
9	Devathathan	8	20%
10	Dananjayan	0	0%

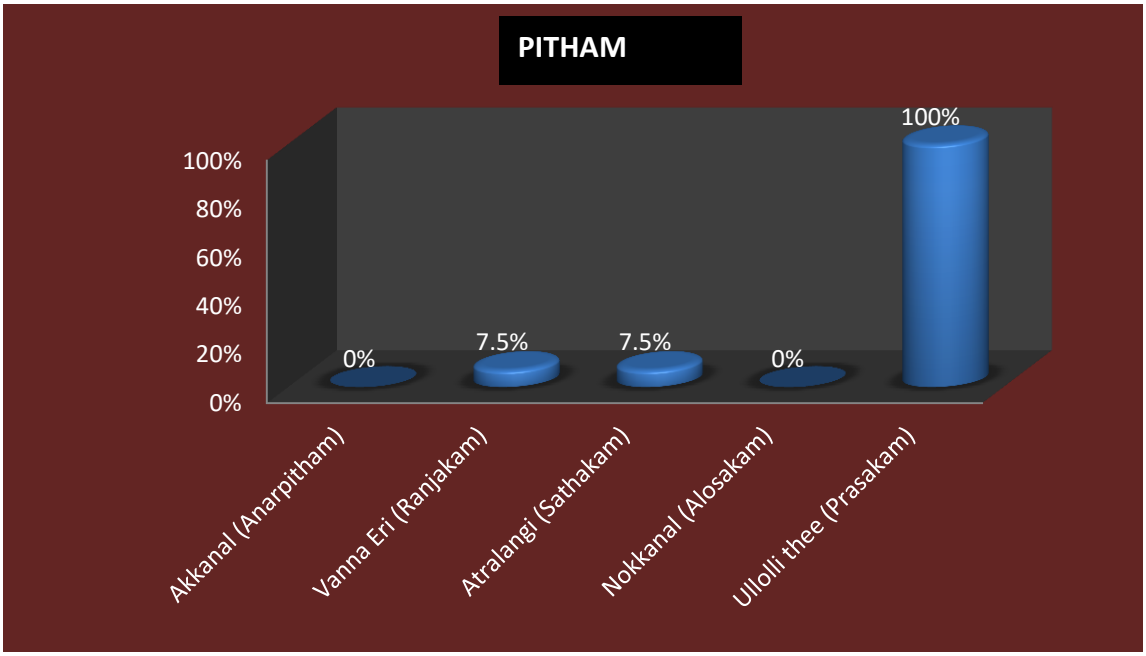


Observation

Samanan and Viyanan (itching present) was found to be affected in all the 40 patients and devathathan (sleep disturbances) was affected in 20% of patients, Abanan was affected in 17.5% of patients (had constipation).

PITHAM

Sl. No	Classification of Pitham	No. of Cases	Percentage
1	Akkanal (Anarpitham)	0	0%
2	Vanna Eri (Ranjakam)	3	7.5%
3	Atralangi (Sathakam)	3	7.5%
4	Nokkanal (Alosakam)	0	0.00%
5	Ullolli thee (Prasakam)	40	100.00%

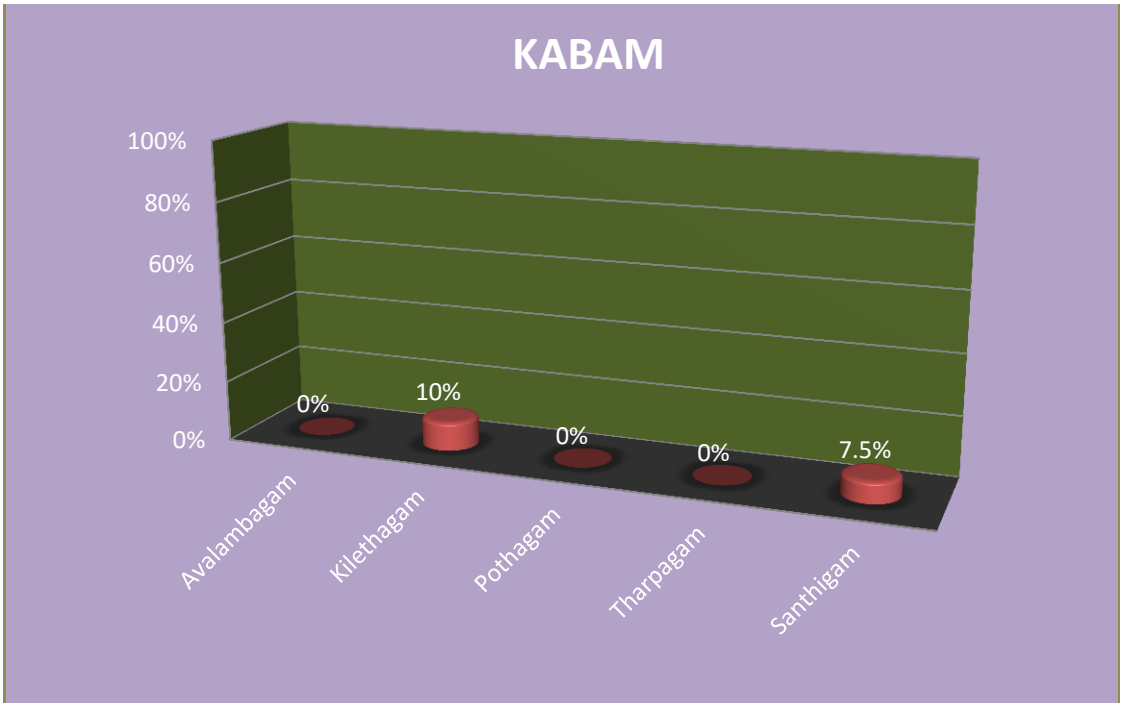


Observation

Prasakam was affected in all the cases. Vanna Eri (anaemia) was affected in 7.5% of patients and Atralangi (movement restrictions present) was affected in 7.5% of patients.

KABAM

Sl. No	Classification of Kabam	No of Cases	Percentage
1	Avalambagam	0	0.00%
2	Kilethagam	4	10%
3	Pothagam	0	0.00%
4	Tharpagam	0	0.00%
5	Santhigam	3	7.5%



Observation

In 10 % of the patients, Kilethagam (indigestion)was found to be affected. Santhigam (movement restrictions present in joints) was affected in 7.5% of the patients.

16. UDAL KATTUKAL

Sl. No	UdarKattugal	No of Cases	Percentage
1	Saaram	40	100%
2	Senneer	40	100%
3	Oon	40	100%
4	Kozhuppu	0	0%
5	Enbu	0	0%
6	Moolai	0	0%
7	Sukkilam/Suronitham	0	0 %

Observation:

Among 40 patients, Saaram, Senneer , Oon were affected in all the cases.

17. EN VAGAI THERVUKAL

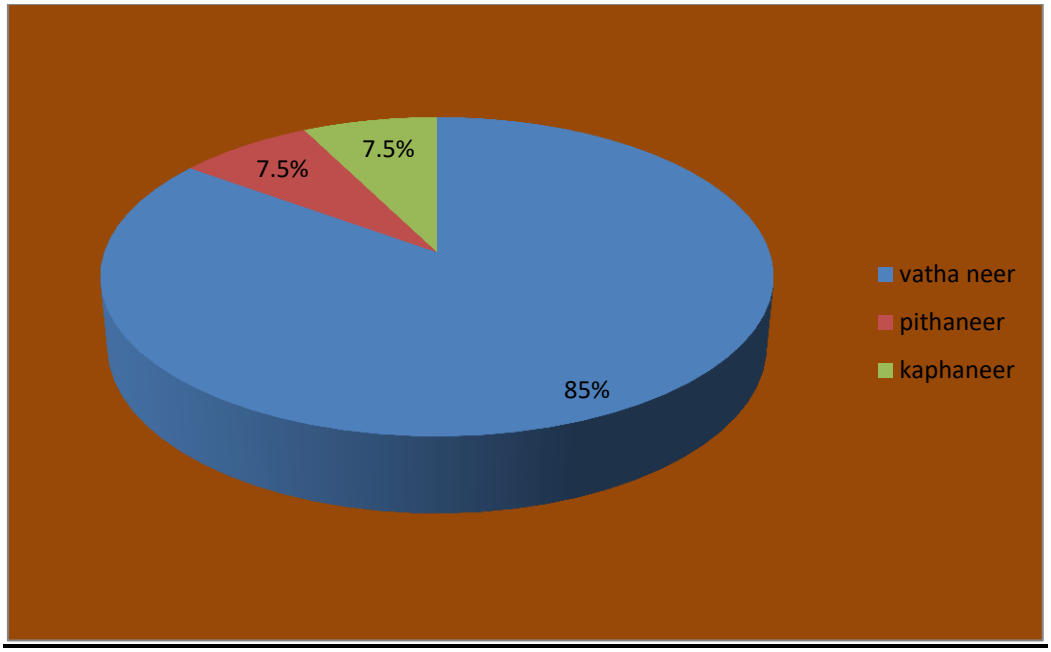
Sl. No	En VagaiThervukal	No. of Cases	Percentage
1	Naa	0	0%
2	Niram	40	100%
3	Mozhi	0	0%
4	Vizhi	0	0%
5	Sparisam	40	100%
6	Malam	7	17.5%
7	Moothiram	0	0%
8	Naadi		
	a. Vathapitham	25	62.5%
	b. Pithavatham	15	37.5%

Observation:

In Envagaithervukal, Niram and Sparisam were found to be affected in all the 40 cases. The Naadinadai seen in Karappan patients were Vathapitham 62.5 %, Pithavatham 37.5 %.

18. NEERKKURI, NEIKKURI REFERENCE

Sl. No	Type of Test	No. of Cases	Percentage
	Neikkuri		
1	Vaatha neer –'Aravena neendin'	3	7.5%
2	Pitha neer-'Aazhi pol paravin'	3	7.5%
3	Kaba neer – 'Muththothu Nitral'	34	85%



Observation:

In Neikkuri Vatha neer was found in 7.5% patients, Pitha neer was found in 7.5% patients and Kaba neer was found in 85% patients.

PATIENT'S BLOOD INVESTIGATION CHART

Sl.no	Op .no	Hb gm%		TC Cells/Cumm		RBC 10^6 Cells/cu.mm		ESR/hr	
		BT	AT	BT	AT	BT	AT	BT	AT
1	I53173	10.3	11.1	6700	8100	4.4	4.7	50/40	10/34
2	J74566	14.2	14.0	9700	8600	4.3	4.2	8/16	4/10
3	J71057	12.2	12	5600	6000	4.2	4.3	2/2	6/4
4	J27416	12.4	11.6	6300	6600	4.9	4.6	6/10	8/16
5	J61604	13.9	13.4	10300	9700	5.1	4.9	6/14	24/50
6	J64132	13.5	13.6	5600	5800	5.6	4.4	10/24	12/16
7	J83804	13.3	13.0	7100	7700	4.8	4.8	14/30	12/28
8	J88835	11.9	12	8800	8000	4.6	4.2	16/34	10/24
9	I38346	12.4	12	8500	8600	4.8	4.8	8/16	10/14
10	K04479	12.3	12.5	8000	8100	4.4	4.5	40/82	20/28
11	J11986	11.2	11	7200	7600	5.0	4.9	12/24	14/20
12	G29270	12.9	14.1	8500	7600	4.0	4.7	26/54	12/28
13	J86172	12.3	12.4	9700	9700	4.6	4.6	10/12	12/16
14	G14967	11.9	12.1	8100	12300	4.2	4.2	20/42	10/42
15	F77246	16.8	16.6	8500	8800	5.7	5.6	8/16	10/20
16	J96575	15.1	15.3	8700	7700	5	5.3	2/6	2/8
17	J81340	9.7	10	8100	8200	4.3	4.2	22/46	20/40
18	J85942	12.9	13.0	8800	8600	4.7	4.6	30/62	10/20
19	J97372	14.7	15.0	6700	8500	4.2	4.1	12/26	10/18
20	J86723	13.9	13.5	7400	7200	4.5	4.4	4/10	2/8

PATIENT'S BLOOD INVESTIGATION CHART

Sl.no	Op .no	Poly morphs		Lymphocytes		Mono Cytes		Eosino phils	
		BT	AT	BT	AT	BT	AT	BT	AT
1	I53173	61	64	34	34	05	02	03	04
2	J74560	65	68	30	29	05	05	3	03
3	J71057	65	63	22	20	4	4	3	5
4	J27416	60	66	35	29	04	05	1	4
5	J61604	78	77	19	20	5	5	3	3
6	J64132	70	69	25	26	4	4	3	4
7	J83804	62	70	35	27	6	5	3	3
8	J88835	70	65	28	25	5	5	2	2
9	J38346	75	73	23	25	8	6	2	2
10	K04479	66	65	32	30	4	5	2	2
11	J11986	68	70	27	30	2	4	3	3
12	G29270	66	64	32	33	4	1	2	3
13	J86172	74	72	24	25	4	4	2	1
14	G14967	66	78	30	19	4	5	2	3
15	F77246	67	65	28	30	2	2	3	3
16	J96575	79	76	17	21	5	5	4	3
17	J81340	76	70	22	25	4	4	2	3
18	J85942	66	68	32	35	4	4	2	2
19	J97372	66	65	31	31	1	2	2	4
20	J86723	70	70	25	26	4	4	2	2

PATIENT'S BLOOD INVESTIGATION CHART

Sl.no	Op .no	Blood Sugar(F)		Blood Sugar(PP)	
		BT	AT	BT	AT
1	J53173	97		124	132
2	J74560	86	98	105	120
3	J71057	83	89	103	108
4	J27416	83	86	106	110
5	J61604	102	102	148	145
6	J64132	90	98	120	126
7	J83804	103	112	114	151
8	J88835	80	86	110	105
9	I38346	88	90	143	148
10	K04479	84	86	115	110
11	J11986	93	90	70	100
12	G29270	96	90	120	112
13	J86172	93	96	126	127
14	G14967	103	106	131	171
15	F77246	87	87	105	110
16	J96575	87	88	117	120
17	J81340	106	109	141	126
18	J85942	113	110	122	129
19	J97372	106	114	117	115
20	J86723	98	90	115	120

OUT-PATIENT'S RENAL FUNCTION TEST CHART

Sl.no	Op .no	Urea mg/dl		Creatinine mg/dl		Uric Acid mg/dl	
		BT	AT	BT	AT	BT	AT
1	I53173	17	21	0.8	0.9	4.2	3.7
2	J74560	18	11	1.6	1.2		
3	J71057	20	24	0.9	0.9	6.4	6.0
4	J27416	14	11	1.0	0.8	3.3	3.4
5	J61604	15	16	0.9	1.0	4	3.6
6	J64132	20	24	0.8	0.9	4	4.6
7	J83804	17	19	0.9	1.0	4.6	4.3
8	J88835	21	24	0.8	0.8	4	4.2
9	I38346	19	22	0.8	1.0	5.8	5.6
10	K04479	16	18	1.0	0.9	5.0	5.2
11	J11986	15	20	1.0	1.0	6	6.2
12	G29270	18	18	0.9	1.1	6.0	6.0
13	J86172	15	15	0.8	0.9	6.0	4.9
14	G14967	18	18	0.7	0.7	4.2	3.2
15	F77246	11	18	1.1	1.0	4.8	4.8
16	J96575	23	25	1.0	1.0	6	6
17	J81340	19	20	0.9	0.8	4.9	4.6
18	J85942	14	20	0.8	0.8	5.1	5.0
19	J97372	22	26	1.0	1.2	6.2	6.9
20	J86723	24	23	1.1	1.1	6.3	6.2

PATIENT'S LIVER FUNCTION TEST CHART

Sl.no	Op .no	Total Bilirubin mg/dl		Direct Bilirubin mg/dl		Indirect Bilirubin mg/dl		SGOT IU		SGPT IU		Alk.phos mg/dl	
		BT	AT	BT	AT	BT	AT	BT	AT	BT	AT	BT	AT
1	I53173	0.6	0.6	0.2	0.2	0.4	0.4	14	10	12	14	71	60
2	J74566	0.7	0.5	0.3	0.2	0.4	0.3	23	21	16	20	76	77
3	J71057	0.5	0.6	0.2	0.2	0.3	0.4	14	16	18	20	84	100
4	J27416	0.4	0.2	0.2	0.2	0.2	0.6	08	08	11	16	69	100
5	J61604	0.7	0.6	0.3	0.2	0.4	0.4	12	13	11	11	89	90
6	J64132	0.3	0.3	0.2	0.2	0.3	0.3	16	18	20	20	69	80
7	J83804	0.3	0.5	0.1	0.2	0.2	0.3	11	11	14	13	66	69
8	J88835	0.4	0.4	0.2	0.2	0.2	0.2	18	20	19	25	92	100
9	I38346	0.5	0.6	0.2	0.2	0.3	0.3	21	20	14	16	77	80
10	K04479	0.5	0.5	0.2	0.3	0.3	0.2	16	20	23	25	64	80
11	J11986	0.4	0.5	0.2	0.2	0.2	0.2	12	12	21	20	116	120
12	G29270	0.3	0.5	0.1	0.2	0.2	0.3	15	19	21	29	125	111
13	J86172	0.7	0.7	0.3	0.2	0.4	0.5	12	11	09	0.5	67	66
14	G14967	0.2	0.4	0.1	0.2	0.1	0.4	14	12	22	11	107	82
15	F77246	1.2	1.0	0.4	0.4	0.8	0.6	25	25	28	30	51	60
16	J96575	0.4	0.4	0.2	0.3	0.3	0.3	18	22	22	18	59	70
17	J81340	0.5	0.6	0.2	0.2	0.3	0.3	27	30	24	28	64	80
18	J85972	0.6	0.5	0.2	0.3	0.4	0.4	14	20	21	25	77	90
19	J97372	0.5	0.7	0.2	0.2	0.3	0.5	17	17	22	15	47	50
20	J86723	0.5	0.5	0.2	0.3	0.3	0.2	15	20	18	24	83	90

PATIENT'S URINE INVESTIGATION CHART

S.no	Op.no	Albumin		Sugar		Deposits	
		BT	AT	BT	AT	BT	AT
1	I53173	Nil	Nil	Nil	Nil	1-2Pus	1-4Pus , 4-6 Epi
2	J74566	Nil	Nil	Nil	Nil	1-2Pus, 2-3 Epi	2-4Pus,2-4 Epi
3	J71057	Nil	Nil	Nil	Nil	1-3Pus, 2-3 Epi	1-2Pus, 1-3 Epi
4	J27146	Nil	Nil	Nil	Nil	2-3Pus, 1-2 Epi	1-2Pus, 1-2 Epi
5	J61604	Nil	Nil	Nil	Nil	1-2Pus,1-2Epi	1-2Pus, 1-2 Epi
6	J64132	Nil	Nil	Nil	Nil	1-2Pus, 2-3 Epi	1-2Pus, 2-3 Epi
7	J83804	Nil	Nil	Nil	Nil	2-4Pus, 4-6Epi	2-4Pus, 2-4 Epi
8	J88835	Nil	Nil	Nil	Nil	1-3Pus, 2-3 Epi	1-3Pus, 2-3 Epi
9	I38346	Nil	Nil	Nil	Nil	1-2Pus, 3-5 Epi	1-2Pus, 3-5 Epi
10	K04479	Nil	Nil	Nil	Nil	1-3Pus, 2-3 Epi	1-3Pus, 2-3 Epi
11	J11986	Nil	Nil	Nil	Nil	1-2Pus, 2-3 Epi	1-2Pus,2-3 Epi
12	G29270	Nil	Nil	Nil	Nil	3-5Pus, 1-2 Epi	1-2Pus, 1-2 Epi
13	J86172	Nil	Nil	Nil	Nil	3-5Pus, 1-2Epi	3-4 Pus, 1-2 Epi
14	G14967	Nil	Nil	Nil	Nil	3-5Pus, 1-2Epi	10-12Pus, 6-8 Epi
15	F77246	Nil	Nil	Nil	Nil	1-2Pus, 1-2Epi	1-2Pus, 2-3 Epi
16	J96575	Nil	Nil	Nil	Nil	2-4 Pus,2-6 Epi	4-6 Pus, 4-6 Epi
17	J81340	Nil	Nil	Nil	Nil	4-5 Pus 1-2Epi	2-3 Pus, 1-2Epi
18	J85942	Nil	Nil	Nil	Nil	1-3 Pus,1-3 Epi	1-3Pus, 2-3 Epi
19	J97372	Nil	Nil	Nil	Nil	1-2Pus, 1-2 Epi	3-4Pus, 1-2 Epi
20	J86723	Nil	Nil	Nil	Nil	4-6Pus, 1-2 Epi	1-2Pus, .2-4 Epi

PATIENT'S BLOOD INVESTIGATION CHART

Sl.no	IP .No	Hb gm%		TC Cells/ Cu.mm		RBC million Cells/ cu.mm		ESR (mm/hr)	
		BT	AT	BT	AT	BT	AT	BT	AT
1	K6028	14.7	14.6	8600	8600	5.1	5	12/24	10/12
2	J12564	11.9	11.8	7800	7800	4.5	4.6	10/16	12/26
3	J97100	12.7	12.2	5900	6700	4.8	4.6	6/12	10/20
4	F97306	13.7	13.5	6700	6700	4.5	4.5	20/40	20/42
5	I65375	12.2.	12	9300	8000	6	5.8	16/34	12/26
6	F87188	13.7	13.6	5600	6000	4.8	4.7	2/10	2/6
7	J39085	13.7	13.9	8800	8900	4.6	4.7	4/16	20/42
8	E18015	11.1	12	10300	9300	4.6	4.6	2/8	2/10
9	J86790	14.1	14	7700	7800	4.6	4.6	12/26	12/30
10	K16565	15.3	15	10000	9000	5	5.1	10/30	6/12
11	J83153	14.5	14.5	8000	7900	5.5	5.4	2/10	2/8
12	I59680	14.2	14.2	7300	7600	4.9	4.8	16/34	16/32
13	K18519	15.6	16	9300	9000	5.4	5.4	10/20	12/18
14	J70192	12.6	12.9	6600	6600	4.6	4.8	22/46	10/20
15	G92688	13	12.9	6000	6900	4.8	4.7	10/18	12/16
16	J48553	12.6	11.6	6100	8700	4.4	4.1	20/40	32/64
17	H93183	15.7	15.5	9500	9800	5.2	5.2	2/10	2/10
18	J85942	13	12.7	7300	7000	4.5	4.7	4/12	4/8
19	K04479	11.2	10.9	8900	6900	4.6	4.7	24/48	20/40
20	J51869	11.7	11.2	8900	7900	5.2	4.9	2/6	2/4

PATIENT'S BLOOD INVESTIGATION CHART

Sl.no	Ip .no	Poly morphs		Lymphocytes		Mono Cytes		Eosino Phils	
		BT	AT	BT	AT	BT	AT	BT	AT
1	K6028	63	65	34	30	6	7	3	4
2	J12567	60	64	30	33	5	5	3	3
3	J97100	66	75	27	20	8	5	2	4
4	F92306	71	60	26	20	5	6	3	3
5	I65375	60	61	35	33	2	6	3	2
6	F87188	54	56	24	28	6	6	2	1
7	J39085	75	68	22	27	4	5	3	2
8	E18015	70	70	28	30	4	5	2	2
9	J86790	61	65	33	30	2	2	4	4
10	K16565	76	74	20	22	4	4	4	4
11	J83153	67	65	31	25	4	4	2	2
12	I59680	59	60	37	40	1	1	3	3
13	K18519	65	68	31	32	1	1	3	3
14	J70192	64	60	30	33	6	7	2	4
15	G92688	77	75	18	22	1	2	4	3
16	H93183	72	70	23	25	5	5	2	2
17	J51869	53	59	43	37	4	3	2	4
18	J85942	47	45	44	40	1	1	2	3
19	K04479	56	55	40	35	5	4	3	2
20	J51869	65	63	30	32	5	4	3	3

PATIENT'S BLOOD INVESTIGATION CHART

Sl.no	Ip .no	Blood Sugar(F)		Blood Sugar(PP/R)	
		BT	AT	BT	AT
1	K6028	85	90	97	102
2	J12567	95	96	120	105
3	J97100	83	85	132	116
4	F92306	95	90	115	110
5	I65375	84	86	111	96
6	F87188	98	96	86	100
7	J39085	85	79	101	110
8	E18015	113	120	111	125
9	J86790	109	110	122	124
10	K16565	80	95	115	120
11	J83153	106	109	110	120
12	I59680	108	109	119	112
13	K18519	80	88	110	118
14	J70192	103	99	121	130
15	G92688	93	110	96	112
16	H93183	90	96	110	106
17	J51869	98	96	99	100
18	J85942	94	84	106	127
19	K04479	100	103	142	123
20	J51869	81	126	132	116

PATIENT'S RENAL FUNCTION TEST CHART

Sl.no	Ip .no	Urea mg/dl		Creatinine mg/dl		Uric Acid mg/dl	
		BT	AT	BT	AT	BT	AT
1	K6028	14	15	1	0.9	4.4	4.6
2	J12564	21	25	0.9	1	4.9	4.8
3	J97100	19	19	0.8	0.6	3.6	5.2
4	F92306	20	24	0.9	1	4.5	5
5	I65375	14	17	1.0	1.2	6.5	8.1
6	F87188	23	25	1.0	1.0	3.3	3.3
7	J39085	14	19	0.9	0.8	5.3	3.6
8	E18015	27	30	0.9	0.6	4.9	4.6
9	J86790	17	18	1	1	6.7	6
10	K16565	15	19	0.8	0.8	3.7	4.2
11	J83153	18	17	1.0	1.1	4.6	4.6
12	I59680	19	19	1.0	1.1	8	8
13	K18519	20	24	0.1	0.1	6	6.6
14	J70192	15	14	0.7	0.7	3.3	3
15	G92688	21	19	1.1	1.1	8.0	7.8
16	H93183	19	20	1.1	1.0	8.5	8
17	J51869	14	10	0.8	1.0	6.0	4.0
18	J85942	34	19	0.9	0.8	5.9	5.2
19	K04479	14	14	0.7	0.7	3.9	5.1
20	J51869	19	24	0.7	0.6	6.2	5.9

PATIENT'S LIVER FUNCTION TEST CHART

Sl.no	Ip .no	Total Bilirubin mg/dl		Direct Bilirubin mg/dl		Indirect Bilirubin mg/dl		SGOT IU		SGPT IU		Alk.phos mg/dl	
		BT	AT	BT	AT	BT	AT	BT	AT	BT	AT	BT	AT
1	E18015	0.3	0.4	0.1	0.2	0.2	0.1	17	20	20	22	68	78
2	J51869	0.2	0.3	0.1	0.1	0.2	0.2	26	19	32	21	87	75
3	K4479	0.5	0.5	0.2	0.3	0.3	0.2	16	20	23	25	64	80
4	I65375	0.2	0.5	0.3	0.2	0.3	0.2	10	15	15	13	86	87
5	F92306	0.6	0.5	0.2	0.2	0.4	0.3	21	25	16	20	123	150
6	J12564	0.3	0.4	0.1	0.2	0.2	0.3	15	20	17	18	94	108
7	F87188	0.6	0.5	0.3	0.3	0.4	0.3	21	25	19	09	71	76
8	J97100	0.3	0.2	0.5	0.5	0.2	0.4	25	20	16	22	89	110
9	J70192	0.3	0.4	0.4	0.4	0.5	0.5	20	16	22	18	96	178
10	H93183	0.3	0.3	0.3	0.3	0.5	0.6	20	24	16	20	89	100
11	G92688	0.3	8	0.1	0.3	0.2	0.5	24	22	29	27	161	113
12	K18519	0.3	0.3	0.3	0.3	0.4	0.3	20	24	24	24	90	98
13	J83153	0.4	0.8	0.2	0.3	0.3	0.5	28	27	36	40	90	73
14	J86790	0.7	0.6	0.2	0.2	0.5	0.3	14	15	13	20	72	80
15	G92688	0.7	0.6	0.5	0.2	0.2	0.4	32	19	18	23	158	106
16	H93183	0.9	0.7	0.4	0.2	0.5	0.5	12	19	14	23	80	83
17	J51869	0.7	0.7	0.2	0.2	0.5	0.5	25	32	27	28	119	86
18	J85942	0.5	0.7	0.2	0.3	0.3	0.4	21	15	25	18	102	79
19	K04479	0.6	1	0.2	0.3	0.4	0.7	19	23	12	24	82	76
20	J51869	0.7	0.7	0.3	0.4	0.4	0.3	36	29	30	31	102	107

PATIENT'S URINE INVESTIGATION CHART

Sl.no	Ip .no	Albumin		Sugar		Deposits	
		BT	AT	BT	AT	BT	AT
1	E18015	Nil	Nil	Nil	Nil	3-4Pus,1-2Epi	1-2Pus, 2-3Epi
2	J51869	Nil	Nil	Nil	Nil	1-2Pus,1-2Epi	2-4Pus, 2-4Epi
3	K4479	Nil	Nil	Nil	Nil	1-3 Pus, 2-3 Epi	1-3 Pus, 2-3Epi
4	I65375	Nil	Nil	Nil	Nil	1-2Pus, 1-2 Epi	2-4Pus, 2-4 Epi
5	F92306	Nil	Nil	Nil	Nil	1-2Pus, 1-2 Epi	1-2Pus, 2-3 Epi
6	F87188	Nil	Nil	Nil	Nil	2-4Pus, 2-4 Epi	2-4Pus, 2-5 Epi
7	J39085	Nil	Nil	Nil	Nil	4-5Pus, 4-5Epi	2-4Pus, 2-4 Epi
8	J97100	Nil	Nil	Nil	Nil	1-2Pus, 2-3 Epi	1-2Pus 2-3 Epi
9	J70192	Nil	Nil	Nil	Nil	1-2Pus, 2-3 Epi	1-2Pus, 2-3 Epi
10	H93183	Nil	Nil	Nil	Nil	2-4Pus, 1-2Epi	2-4Pus, 1-2Epi
11	G92688	Nil	Nil	Nil	Nil	2-4Pus, 2-4 Epi	2-4Pus,2-4Epi
12	K18519	Nil	Nil	Nil	Nil	1-2Pus,1-2Epi	1-2Pus,1-2Epi
13	I59680	Nil	Nil	Nil	Nil	2-3Pus,2-3Epi	2-3Pus,1-2Epi
14	J83153	Nil	Nil	Nil	Nil	1-3Pus,1-3Epi	1-3Pus,2-3Epi
15	K16575	Nil	Nil	Nil	NiL	1-3Pus,1-3Epi	2-3Pus, 1-2 Epi
16	J86790	Nil	Nil	Nil	Nil	1-2pus, 2-3 Epi	1-2Pus, 2-3 Epi
17	J51869	Nil	Nil	Nil	Nil	2-4Pus, 2-4Epi	2-4Pus, 2-4Epi
18	J85942	Nil	Nil	Nil	Nil	1-2Pus, 1-2 Epi	3-5Pus, 1-2 Epi
19	K04479	Nil	Nil	Nil	Nil	3-4Pus, 3-4 Epi	1-2Pus, 1-2 Epi
20	J51869	Nil	Nil	Nil	Nil	1-2Pus, 1-2 Epi	1-2Pus, 1-2 Epi

RESULTS AND STATISTICAL ANALYSIS

Yogam treatment along with the trial drug:

All collected data were entered into MS Excel software using different columns as variables and rows as patients. SPSS software was used to perform statistical analysis. Basic descriptive statistics include frequency distributions and cross-tabulations were performed. The quantity variables were expressed as Mean ± Standard Deviation and qualitative data as percentage. A probability value of <0.0001 was considered to indicate as statistical significance. Paired 't' test was performed for determining the significance between before and after treatment.

Sl. no	Op .no	Age/ Sex	DOI	Date Of Admission	No of Days Treated	EASI Score		GRADE
						BT	AT	
1	0561	53/m	5yrs	10/04/18	40	39.3	6.0	EASI 75
2	0341	59/M	5yr	28/02/17	40	43.6	5.0	EASI 75
3	K04479	27/F	7yrs	07/04/18	40	20	2.4	EASI 75
4	F92306	45/F	6yrs	03/04/18	40	16.0	4.0	EASI 75
5	K18519	33/M	2yrs	14/04/18	40	32.0	4.8	EASI75
6	H93183	34/m	6yrs	16/04/18	40	24.0	3.6	EASI 75
7	J27416	38/F	1yrs	11/10/18	40	8.4	0.8	EASI 75
8	J11986	32/F	5yrs	27/12/17	40	36	12.8	EASI 75
9	J85942	32/F	3yr	8/3/18	40	24	4.8	EASI 75
10	J81340	30/F	4yrs	6/3/18	40	7.2	3.2	EASI 50
11	G29270	54/F	5yrs	16/2/18	40	9.6	8.4	EASI 25
12	G14967	29/F	10yr	19/2/18	40	9.6	2.4	EASI 50
13	J88835	52/F	15yrs	29/1/18	40	14	6	EASI 50
14	J61604	58/F	6yrs	26/1/18	40	28.8	3.2	EASI 75
15	J86790	57/M	1yrs	11/4/18	40	9.6	1.6	EASI 50

16	F87188	53/M	4yrs	9/4/18	40	16	4	EASI 75
17	J71057	37/M	3yrs	22/12/18	40	41.4	14.6	EASI 75
18	I53173	42/M	5yrs	10/1/18	40	33	9.9	EASI 75
19	J51869	44/F	4yrs	10/4/18	40	16	2.4	EASI 75
20	J48553	31/M	6yrs	15/4/18	40	16.0	8.0	EASI 50

Statistical analysis for yogam with trail drugs:

EASI score	Mean± Std	p –value
Before treatment	13.39±7.20	p<0.0001
After treatment	5.73± 2.59	

The mean value of EASI score for patients with yogam is 13.39 and after treatment is 5.73. The p-value is less than 0.0001 which is significant. The reduction in the Mean was 57.2%. Hence this study reveals Yogam treatment along with trial medicines is to be effective in reducing the symptoms of Karappan.

TRIAL DRUG MEDICINE:

Sl. No	OP .no	Age/ Sex	DOI	No of Days Treated	Date Of Admission	EASI Score		GRADE
						BT	AT	
1	I65375	27/M	1yrs	40	07/4/18	7.2	7.2	EASI 0
2	J12564	52/F	8yrs	40	20/3/18	8.0	8.0	EASI 0
3	J86723	47/M	7yrs	40	08/03/18	3.6	3.6	EASI 0
4	K06028	40/M	2yrs	40	18/3/18	19.2	6.4	EASI 50
5	J83153	29/M	6yr	40	12/4/18	16	2.4	EASI 75
6	G92688	33/M	1yrs	40	15/4/18	9.6	3.6	EASI 50
7	K16575	49/F	2yrs	40	11/4/18	22	6.4	EASI 75
8	J70192	48/M	4yr	40	15/4/18	28.4	11.8	EASI 50
9	I59680	44/M	6yrs	40	12/4/18	8	6.4	EASI 25

10	J64132	28/M	6yrs	40	27/1/18	10.8	3.6	EASI 50
11	J83804	37/F	10yrs	40	27/1/18	18	2.4	EASI 75
12	I38346	45/F	2yr	40	12/2/18	22	4.8	EASI 75
13	J86172	34/F	4yrs	40	19/2/18	24	6.4	EASI 75
14	J97100	33/M	8yrs	40	30/3/18	17.6	3.2	EASI 75
15	F77246	28/M	1yrs	40	25/02/18	8.8	6.4	EASI 25
16	E018015	44/F	4yrs	40	10/04/18	3.2	3.2	EASI 0
17	J74566	54/M	3yrs	40	22/12/18	5.4	4.8	EASI 25
18	0566	34/M	5yrs	40	12/4/18	9.6	9.6	EASI 0
19	0775	50/M	4yrs	40	14/6/18	14.4	9.6	EASI 50
20	0622	49/F	6yrs	40	23/4/18	12	4.8	EASI 50

Statistical analysis for trail drug:

EASI score	Mean± Std	p -value
Before treatment	17.80±10.68	p<0.0001
After treatment	5.73± 2.59	

The mean value of EASI score for patients with trial drug are 17.80 and after treatment is 5.73. The p-value is less than 0.0001 which is significant. The reduction in the Mean was 67.8%. Hence this study reveals Yogam treatment along with trial medicines is to be effective in reducing the symptoms of Karappan.

Results after treatment for ESAI SCORE:

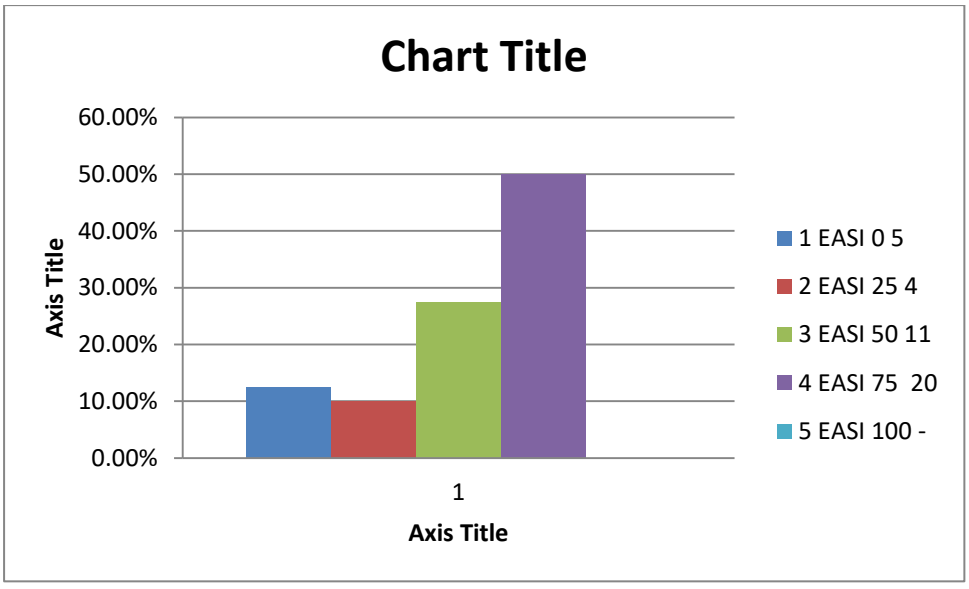
Sl. no	Op .no	Age/ Sex	DOI	No of Days Treated	EASI Score		GRADE
					BT	AT	
1	0561	53/m	5yrs	40	39.3	6.0	EASI 75
2	0341	59/M	5yr	40	43.6	5.0	EASI 75
3	K04479	27/F	7yrs	40	20	2.4	EASI 75

4	F92306	45/F	6yrs	40	16.0	4.0	EASI 75
5	K18519	33/M	2yrs	40	32.0	4.8	EASI75
6	H93183	34/m	6yrs	40	24.0	3.6	EASI 75
7	J27416	38/F	1yrs	40	8.4	0.8	EASI 75
8	J11986	32/F	5yrs	40	36	12.8	EASI 75
9	J85942	32/F	3yr	40	24	4.8	EASI 75
10	J81340	30/F	4yrs	40	7.2	3.2	EASI 50
11	G29270	54/F	5yrs	40	9.6	8.4	EASI 25
12	G14967	29/F	10yr	40	9.6	2.4	EASI 50
13	J88835	52/F	15yrs	40	14	6	EASI 50
14	J61604	58/F	6yrs	40	28.8	3.2	EASI 75
15	J86790	57/M	1yrs	40	9.6	1.6	EASI 50
16	F87188	53/M	4yrs	40	16	4	EASI 75
17	J71057	37/M	3yrs	40	41.4	14.6	EASI 75
18	I53173	42/M	5yrs	40	33	9.9	EASI 75
19	J51869	44/F	4yrs	40	16	2.4	EASI 75
20	J48553	31/M	6yrs	40	16.0	8.0	EASI 50
21	I65375	27/M	1yrs	40	7.2	7.2	EASI 0
22	J12564	52/F	8yrs	40	8.0	8.0	EASI 0
23	J86723	47/M	7yrs	40	3.6	3.6	EASI 0
24	K06028	40/M	2yrs	40	19.2	6.4	EASI 50
25	J83153	29/M	6yr	40	16	2.4	EASI 75
26	G92688	33/M	1yrs	40	9.6	3.6	EASI 50
27	K16575	49/F	2yrs	40	22	6.4	EASI 75
28	J70192	48/M	4yr	40	28.4	11.8	EASI 50
29	I59680	44/M	6yrs	40	8	6.4	EASI 25
30	J64132	28/M	6yrs	40	10.8	3.6	EASI 50
31	J83804	37/F	10yrs	40	18	2.4	EASI 75
32	I38346	45/F	2yr	40	22	4.8	EASI 75

33	J86172	34/F	4yrs	40	24	6.4	EASI 75
34	J97100	33/M	8yrs	40	17.6	3.2	EASI 75
35	F77246	28/M	1yrs	40	8.8	6.4	EASI 25
36	E018015	44/F	4yrs	40	3.2	3.2	EASI 0
37	J74566	54/M	3yrs	40	5.4	4.8	EASI 25
38	0566	34/M	5yrs	40	9.6	9.6	EASI 0
39	0775	50/M	4yrs	40	14.4	9.6	EASI 50
40	0622	49/F	6yrs	40	12	4.8	EASI 50

RESULTS for after treatment(EASI score):

Sl. No	Results	No of Cases	Percentage
1	EASI 75	20	50%
2	EASI 50	11	27.5%
3	EASI 25	4	10%
4	EASI 0	5	12.5%



EASI 0 - No improvement

EASI 25 - 25% Mild improvement

EASI 50- 50% Moderate improvement

EASI 75- 75% Good improvement

EASI 100- 100% Reduction in the score before and after treatment

Observation:

12.5% of them had no reduction or minimal reduction in the score, 10% of them had 25% of reduction in the score after treatment, 27,5% of them had 50% of reduction in the score after treatment, 50% of them had 75% of reduction in the score after treatment which indicates the good improvement after treatment.

Statistical analysis for EASI SCORE:

EASI score	Mean± Std	p –value
Before treatment	22.22±11.89	p<0.0001
After treatment	5.39± 3.67	

The mean value of EASI score for 40 patients are 22.22 and after treatment is 5.39. The p-value is less than 0.0001 which is significant. The reduction in the Mean was 95%. Hence this study reveals Yogam treatment along with trial medicines is to be effective in reducing the symptoms of Karappan.

Photograph

Before treatment

AFTER TREATMENT:

BEFORE TREATMENT:

After treatment

Before treatment:

After treatment:

The main aim of the trial was to study the therapeutic effect of the drug to reduce the symptoms of Karappan such as itching, oozing etc. The clinical features of Karappan can be correlated to eczema in modern science. Eczema is a non - contagious chronic skin disease which is characterized by erythema, scaling, oedema, oozing and vesiculation.

The drugs which is mentioned in Siddha literature for the management of Karappan were selected and the study is conducted after the proposal was screened by the Screening committee of National Institute of Siddha and the trial was also approved by the Institutional Ethical Committee (IEC). The trial was registered in Clinical trial registry of India.

The trial drugs were prepared by the Author in the Gunapadam practical laboratory of National Institute of Siddha, after getting proper authentication of raw drugs from the Medicinal botany department at NIS, Chennai 47. The trial drug was prepared by the standard operating procedure as mentioned in the protocol.

The Biochemical qualitative and quantitative analysis of drugs were performed in biochemistry lab of NIS, chennai. The safety of the trial drug usage through biochemical analysis were also ensured during the study. It revealed the presence of effective minerals.

The patients were recruited for the trial based on inclusion and exclusion criteria and after getting the consent from the patient. 40 patients were included in this study. Out of the 40 cases, 20 patient were treated with trial drug and remaining 20 patient were treated with yogam along with trial drug. Separate proforma was maintained for every patient. Daily progress chart was also maintained to monitor the clinical signs and symptoms of the disease.

The treatment was aimed at normalizing the deranged thodams and providing relief from symptoms. Before treatment the patients were advised to take Agathiyar kuzhambu - 130 mg with sanganguppi juice in early morning for purgation. The patient was advised to take rest without internal medicine on that day.

The patients were treated with trial drugs Parangichakkai chooranam(internal) twice a day with water for 40 days and Karappan ennai (external) for 40 days . Patients were instructed to take the medicines regularly and advised to follow pathiyam and to avoid exposure to allergic substances if any. Out-Patients were asked to visit the hospital once in 7 days. For Out-Patients the internal drug was given for 7 days and external medicine was

given for 7 days and the clinical assessment was done on 1st day, 8th day, 15th day, 22th day , 29th day, 36st day and 41th .

After completion of the study, the patients were advised to visit the Out-Patient ward of Department of Sirappu Maruthuvam for another 2 months for follow-up. The results observed during the study period were discussed by the author below.

Among the 40 patients included,

According to the **Gender** the disease was found to be higher in males **(**55%) compared to females (45%).

In **Age group** maximum numbers of patients 42.5% were in the age group of 41 to 50, 27.5% were in the age group of 51 to 60, 20% were in the age 31 to 40 and 10% were in the age of 20 to 30.

In my study while seeing **socio-economic status** of the patients the disease was found to be higher in the Low income group 62.5%. lower in the Middle income group 25%.moderate in the high income group12.5%. Increased incident is present in low income group.

In Occupational distribution, Among 40 patients 27.5% cases were home makers, 10% were at building work as it may be caused by contact with cement, paint, varnish etc, 12.5% patients were in business , 7.5% of them were coolie, security, powerplant employee, 5% were house keeping, mechanic, driver, teacher each and 2.5% of them were leather factory employee, bank employee, hair stylist, IT proffessional each. According to occupational distribution, the chemical handling person and home maker were mostly affected.

In **Diet** Non vegetarian (90%) is very higher than the vegetarian (10%). According to this, Non-vegetarian were involved.

Regarding **Family history** Among 40 patients , 92.5% of the patients showed no family history, 7.5% showed positive family history. According to this family history were low.

Regarding **Thinai** 90% of the patients were from Neithal(Coastal Area), 7.5% were from Kurinji(Hill area) and the remaining 2.5% are from Marutham (Fertile Land). Vatha diseases are predominant in neithal thinai. As per the text “வாதமலாது மேனி கெடாது” skin

diseases are predominant in neithal thinai, which was seen in this study also. According to siddha aspect, Neithal thinai persons were mostly involved.

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In **Paruva Kaalam** among the 40 patients admitted for this study, the highest number of patients(77.5%) reported in Munpani Kaalam, 20% are reported in Pinpani Kaalam and 2.5% are reported in kootthir kaalam. According to climate variation highest incidence is involved in Munpani Kaalam.

In **Gunam** 20% of cases had Raso gunam 100%.

In **Yaakai Ilakkanam** Out of 40 patients 17.5% of them were vatha udal 12.5% were pitha udal and 70% had Thontha Udal.

While seeing the **Naadi**, Vatha pitha naadi was found in 62.5% cases, Pitha vatha naadi was found in 37.5% cases.

In **Vatham** viyaanan and samanan was affected in all cases (100%) and devathathan was affected in 20% of patients, kirukaran was affected in 10% of patients, Abanan was affected in 17.5% of patients.

In **Pitham a**mong 40 cases Prasakam was affected in all the cases. Vanna Eri (Ranjakam) was affected in 7.5% of patients and Atralangi (Sathakam) was affected in 7.5% of patients.

In **Iyam** Santhigam was affected in 7.5% of the patients and in 10% of the patients, Kilethagam was found to be affected.

In **En vagai thervukal**, Niram and Sparisam were found to be affected in all the 40cases.

In **Neikkuri** Vatha neer was found in 7.5% patients, Pitha neer was found in 7.5% patients and Kaba neer was found in 85% patients**.**

In **Udal thaathukkal** among 40 patients, Saaram, Senneer were affected in all the cases.

In **Duration of illness** the maximum number of patients (32.5%) have the duration of illness between 1-5 years, 30% > 1 Year, 22.5% 6-10 yrs, 5% 11-15 yrs, 10% were <15 yrs.

According to the **clinical features** Among 40 patients included in the study 100% cases suffered from itching and hyperpigmentation, 95% of them had oozing and, 10% of them had scaling, 17.5% of them had lichenification, 27.5% of them had vesicles, 87.5% of them had papules, 40% of them had erythema and 12.5% of them had hypopigmentation

In this study, Among 40 patients 60% had the lesion in both lower limb, 35% had the lesion both in upper limb and in lower limb and 7.5% had lesions in Upper limb, Lowerlimb, Trunk and face .

Among the 40 patients 20 patients were advised Yogam therapy along with the trial medicines and the remaining others received only the trial medicines. The patients who received Yogam therapy along with their medications responded well since the Yogam therapy is mainly aimed to reduce the stress, and calms the mind which plays a vital role in better prognosis and reduces the relapse of this disease.

After treatment Out of 40 cases 12.5% of them **(**5 patient) had no reduction in the score, 10% of(4 patients) had mild improvement, 27.5% of (11 patients) had moderate improvement, 50% of (20 patients) had good improvement.

Patients who were received both treatment had revealed good result and quick revealment than the trail medicine taken alone. Based on this, it shows medicine combained with yogam therapy is better effective than appropriate to treat the Karappan.

Laboratory investigation of blood and urine were done for all 40 cases. There were no significant changes in blood and urine parameters before and after treatment.

In this study no adverse event were absorved during the course of the treatment. After the study period all the patients were attend outpatient department of Sirappu Maruthuvam of NIS for further follow up of 6 months.

SUMMARY

The disease Karappan was taken for the clinical study with *Parangichakkai chooranam* internal medicine and *Karappan ennai* external application after scrutinized by the Screening committee of National Institute of Siddha.

The Clinical study was carried out after obtaining proper permission from IEC of National Institute of Siddha (IEC number: NIS/IEC/2016/11-14/14.10.2016) and the trial was registered in Clinical trial registry of India with the reference number of REF/2018/03/018797.The medicines were prepared after obtaining proper authentication. Biochemical analysis of drugs were performed. Hence the study is safely executed on human volunteer patients.

40 patients were treated in Ayothidoss Pandithar Hospital of National Institute of Siddha. The patients with Karappan were recruited based on Inclusion and Exclusion criteria and detailed study was done. Separate proforma was maintained for each patient along with daily progress chart to monitor the prognosis.

CONCLUSION

The clinical trial proves the efficacy of the trial drugs by reducing the clinical signs and symptoms like Itching, Oozing and hyperpigmentation, etc and provides better cure. The study results shows that 12.5% of them **(**5 patient) had no reduction in the score, 10% of(4 patients) had mild improvement, 27.5% of (11 patients) had moderate improvement, 50% of (20 patients) had good improvement. Thus these results revealed good relief from the disease after treatment.

The trial medicines were prepared from easily available ingredients and the palatability of medicine is better and the dosage is also convenient.

Yogam treatment along with internal and external medication shows good results in patients. When these affected individuals get a better management with this trial drug and Yogam, it would be a great benefit for the society.

In the present study there was no adverse effect were reported in clinical trial. Hence the drugs were proven for their safety. The Clinical trial conducted in selected patients was satisfactory and encouraging. Further studies may be taken up to establish the efficacy of the drug.

The Tamil Nadu Dr.M.G.R.Medical University

69, Anna Salai, Guindy, Chennai - 600 032.

This Certificate is awarded to Dr/Mr/Mrs..... DINESH.B.R .....

For participating as ~~Resource Person~~ / Delegate in the Twenty First Workshop on

"RESEARCH METHODOLOGY & BIOSTATISTICS"

*For **AYUSH Post Graduates & Researchers***

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The Tamil Nadu Dr. M.G.R. Medical University From 25th to 29th April 2016.

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DEPT.OF SIDDHA

Prof.**Dr.P.ARUMUGAM,** M.D.,
REGISTRAR i/c

Prof. **Dr.S.GEETHALAKSHMI,** M.D., Ph.D.,
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F.No.NIS/6-20/IEC/15-16 Dt: 14.10.2016

CERTIFICATE

Address of Ethics Committee: National Institute of Siddha, Tambaram Sanatorium, Chennai-600047, Tamil Nadu, India	
Principal Investigator: Dr. B.R.Dinesh– I year, Dept.of Sirappu Maruthuvam	
Protocol Title:- Comparative Clinical study of Parangichakkai Chooranam (Internal) and Karappan Ennai (External) for the treatment of Karappan (Eczema) with and without Yogam.	
Documents filed	1) Protocol, 2) Data Collection forms
Clinical trial Protocol (others – Specify)	**Yes-(M.D-Dissertation)**
Informed consent documents	**Yes**
Any other documents	**-**
Date of IEC approval & its number	**NIS/IEC/2016/11-14/ 14.10.2016**

We approve the trial to be conducted in its presented form.

The Institutional Ethics Committee expects to be informed about the progress of the study, any SAE occurring in the course of the study.

(Dr.V.Subramanian)
Chairman

(Prof.Dr.V.Banumathi)
Member Secretary

NATIONAL INSTITUTE OF SIDDHA * CHENNAI 600 047

NATIONAL INSTITUTE OF SIDDHA, CHENNAI – 600047

BOTANICAL CERTIFICATE

Certified that the following plant drugs used in the Siddha formulation **"Parangichakkai chooranam"** (Internal) taken up for Post Graduation Dissertation studies by **Dr.B.R.Dinesh** M.D.(S), II year, Department of Sirappu Maruthuvam, 2018, are identified through Visual inspection, Experience, Education & Training, Organoleptic characters, Morphology and Taxonomical methods as

Smilax china Linn. (Liliaceae), Root

Zingiber officinale Rosc. (Zingiberaceae), Dried rhizome

Piper longum Linn. (Piperaceae), Fruit

Elettaria cardamomum Maton (Zingiberaceae), Fruit

Embelia ribes Burm. f. (Myrsinaceae), Fruit

Cinnamomum verum Presl. (Lauraceae), Bark

Carum copticum Benth & Hook. f. (Apiacea), Fruit

Hyoscyamus niger Linn. (Solanaceae), Seed

Plumbago zeylanica Linn. (Plumbaginaceae), Root

Alpinia officinarum Hance (Zingiberaceae), Rhizome

Piper longum Linn. (Piperaceae), Root

Alpinia galanga (Linn.) Willd. (Zingiberaceae), Rhizome

Clerodendrum serratum (Linn.) Moon (Verbenaceae), Root

Coriandrum sativum Linn. (Apiaceae), Fruit

Cuminum cyminum Linn. (Apiaceae), Fruit

Nigella sativa Linn. (Ranunculaceae), Seed

Glycyrrhiza glabra Linn. (Fabaceae), Root

Vettiveria zizanoides (Linn.) Nash (Poaceae), Root

Plectranthus vettiveroides (Jacob) Singh & Sharma (Lamiaceae), Root

Cyperus rotundus Linn. (Cyperaceae), Tuber

Curcuma zedoaria Linn. (Zingiberaceae), Rhizome

Saccharum officinarum Linn. (Poaceae), Crystal sugar.

MEDICINAL BOTANY CHENNAI 600 047 National Institute of Siddha

Certificate No: NISMB3362018

Date: 29-05-18

Authorized Signatory

Dr. D. ARAVIND, M.D.(s),M.Sc.,
Assistant Professor
Department of Medicinal Botany
National Institute of Siddha
Chennai - 600 047. INDIA

NATIONAL INSTITUTE OF SIDDHA, CHENNAI – 600047

BOTANICAL CERTIFICATE

Certified that the following plant drugs used in the Siddha formulation **"Karappan Ennai"** (External) taken up for Post Graduation Dissertation studies by **Dr.B.R.Dinesh** M.D.(S), II year, Department of Sirappu Maruthuvam, 2018, are identified through Visual inspection, Experience, Education & Training, Organoleptic characters, Morphology and Taxonomical methods as

Thespesia populnea Linn. (Malvaceae), Bark
Capparis sepiaria Linn. (Capparaceae), Root bark
Cassia senna Linn. (Caesalpiniaceae), Leaf
Solanum surattense, Burm.f (Solanaceae), Whole plant
Sterculia foetida Linn. (Sterculiaceae), Bark
Mucuna prurita Hook. (Fabaceae), Seed
Ricinus communis Linn. (Euphorbiaceae), Seed oil
Citrus limon (Linn.) Osb. (Rutaceae), Fruit
Piper nigrum Linn. (Piperaceae), Fruit
Nigella sativa Linn. (Ranunculaceae), Seed
Psoralea corylifolia Linn. (Fabaceae), Seed
Allium sativum Linn. (Liniaceae), Bulb
Acorus calamus Linn. (Araceae), Rhizome
Anethum graveolens Linn. (Apiaceae), Fruit
Helicteres isora Linn. (Sterculiaceae), Fruit
Smilax china Linn. (Liliaceae), Root

Certificate No: NISMB336A2018
Date: 29-05-18

Authorized Signatory
Dr. D. ARAVIND, M.D.(s),M.Sc.,
Assistant Professor
Department of Medicinal Botany
National Institute of Siddha
Chennai - 600 047. INDIA

NATIONAL INSTITUTE OF SIDDHA

AYOTHIDOSS PANDITHAR HOSPITAL

CHENNAI – 600 047.

POST - GRADUATE DEPARTMENT OF SIRAPPU MARUTHUVAM

A comparative clinical study of ***Parangisakkai Chooranam*** (Internal medicine) and ***Karappan Ennai*** (External medicine) for the treatment of Karappan (Eczema) with and without yogam.

PRINCIPAL INVESTIGATOR Dr.B.R.Dinesh ***REG NO*:**

FORM l - SCREENING & SELECTION PROFORMA

SL.NO **OP NO:**

NAME: **AGE/GENDER:** **CONTACT NO:**

INCLUSION CRITERIA

Age :18-60Yrs	M/F	Papules	Yes/ No
Itching	Yes/ No	Scaling	Yes/ No
Oozing	Yes/ No	Vescicles	Yes/ No
Erythema	Yes/ No	Hyperpigmentation	Yes/No
Burning	Yes/ No	Lichenification	Yes/ No
Willing to give blood for investigation	Yes/ No	Willing for admission in IPD for 40 days or to attend OPD	Yes/No

EXCLUSION CRITERIA : **H/O**

Hypertension	Yes/No	Evidence of any skin disease other than eczema	Yes/ No
Diabetes mellitus	Yes/No	Pregnancy and Lactation	Yes/No
Narcotic addicts	Yes/No	Cardiac ailments	Yes/No
		Varicose eczema	Yes/No

ADMITED TO TRIAL : YES ☐ NO ☐ If yes, serial No: ☐☐

OPD ☐ IPD ☐

Date:

Station:

Signature of the Investigator:

Signature of the Lecturer: Signature of the HOD

NATIONAL INSTITUTE OF SIDDHA

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[PRINCIPAL INVESTIGATOR] Dr. B. R. DINESH

FORM II – CLINICAL RESEARCH FORM

STUDY NO **OP / IP NO:**

NAME: **AGE/GENDER:**

ADDRESS : **CONTACT NO :**

RELIGION : H / M / C / O

OCCUPATION: **INCOME:**

MARRITAL STATUS: MARRIED ☐ **UNMARRIED** ☐

DATE OF INITIAL ASSESSMENT:

COMPLAINTS & DURATION:

PERSONAL HISTORY:

PERSONAL HABITS	YES	NO	IF YES SPECIFY DURATION	AMOUNT/ Qty
Smoking				
Tobacco Chewing				
Alcohol				
Narcotic Drug Addiction				

HISTORY OF PREVIOUS ILLNESS AND TREATMENT TAKEN:

FAMILY HISTORY:

Whether this problem runs in family? 1. Yes ☐ 2.No ☐

If yes, mention the relationship of affected person(s)

1._____

2._____

DIETARY HABIT:

1.Vegetarian ☐ 2.Non-vegetarian ☐

MENSTURAL HISTORY AND OBSTETRIC HISTORY:

FORM II a

GENERAL EXAMINATION:		Before treatment	After treatment
1. Body weight [Kg]	:		
2. Height [cms]	:		
3. Body Temperature [^{0}F]	:		
4. Blood Pressure (mm/Hg)	:		
5. Pulse Rate /min.	:		
6. Heart Rate / min.	:		
7. Respiratory Rate /min.	:		

		Yes	No
8. Pallor	:	☐	☐
9. Jaundice	:	☐	☐
10. Clubbing	:	☐	☐
11. Cyanosis	:	☐	☐
12. Pedal Oedema	:	☐	☐
13. Lymphadenopathy	:	☐	☐
14. Jugular venous pulsation	:	☐	☐

VITAL ORGANS EXAMINATION:	Normal	Abnormal
1. Heart	☐	☐
2. Lungs	☐	☐
3. Brain	☐	☐
4. Liver	☐	☐
5. Kidney	☐	☐
6. Spleen	☐	☐
7. Stomach	☐	☐

SYSTEMIC EXAMINATION:	Normal	Abnormal
1. Cardio-vascular system	☐	☐
2. Respiratory system	☐	☐
3. Gastro intestinal system	☐	☐
4. Central nervous system	☐	☐
5. Uro-genital system	☐	☐
6. Endocrine system	☐	☐

SIDDHA SYSTEM OF EXAMINATION

1. THEGI (TYPE OF BODY CONSTITUTION):

1. Vaathaudal	☐	3. Kabaudal	☐
2. Pithaudal	☐	4. Thonthaudal	☐

2. NILAM (LAND WHERE THE PATIENT LIVED MOST):

1. Kurinji ☐ 3. Paalai ☐

2. Mullai ☐ 4. Neithal ☐

5. Marutham ☐

3. KAALAM:

1. Kaarkaalam ☐ 4. Pinpanikaalam ☐

2. Koothirkaalam ☐ 5. Ilavenilkaalam ☐

3. Munpanikaalam ☐ 6. Muthuvenilkaalam ☐

4. GUNAM:

1. Sathuvam ☐ 2. Rasogunam ☐

3. Thamogunam ☐

5.PORIPULANGAL(SENSORY ORGANS):

	1st day	**8th day**	**15th day**	**22nd day**	**29th day**	**36th day**	**41st day**
Mei (Skin)							
Vaai (Tongue)							
Kan (Eye)							
Mooku (Nose)							
Sevi (Ear)							

6.KANMENDRIYAM(MOTOR ORGANS):

	1st day	**8th day**	**15th day**	**22nd day**	**29th day**	**36th day**	**41st day**
Kai (Upper limb)							
Kaal (Lower limb)							
Vaai (Speech)							
Eruvai (Excretory organ)							
Karuvai (Reproductive organs)							

7.KOSANGAL (SHEATH):

	1st day	8th day	15thday	22nddday	29thday	36thday	41st day
Annamaya Kosam							
Pranamaya kosam							
Manomaya kosam							
Vignanamaya kosam							
Aananthamaya kosam							

8.UYIR THATHUKKAL (THREE HUMOURS):

A. VALI

	1st day	8thday	15th day	22nd day	29th day	36th day	41st day
Praanan							
Abaanan							
Viyaanan							
Udhaanan							
Samaanan							
Naagan							
Koorman							
Kirukaran							
Devathathan							
Dhananjeyan							

B) AZHAL

	1st day	8thday	15th day	22nd day	29th day	36th day	41st day
Analakam							
Prasakam							
Ranjakam							
Aalosakam							
Saathakam							

C. IYAM:

	1st day	8thday	15thday	22ndday	29thday	36thday	41st day
Avalambagam							
Kilethagam							
Pothagam							
Tharpagam							
Santhigam							

9.SEVEN UDAL DHATHUS: (7 SOMATIC COMPONENTS)

	1st day	8thday	15thday	22ndday	29thday	36th day	41st day
Saaram							
Senneer							
Oon							
Kozhuppu							
Enbu							
Moolai							
Sukkilam / Suronitham							

ENVAGAI THERVU: [EIGHT TYPES OF EXAMINATION]

I. NAADI: [PULSE PERCEPTION]

II.

1st Day	8th day	15thday	22ndday	29th day	36th day	41st day

SPARISAM:

1st Day	8th Day	15th Day	22nd day	29th day	36th day	41st day

III. NAA:[TONGUE]

1st Day	8th Day	15th Day	22nd Day	29th Day	36th Day	41st day

VI.NIRAM: [COMPLEXION]

1. Vaatham ☐ 3. Kabam ☐

2. Pitham ☐

V.MOZHI: [VOICE]

1. High Pitched ☐ 2. Low Pitched ☐

3. Medium Pitched ☐

VI.VIZHI: [EYES]

1st Day	8th Day	15th Day	22th Day	29th Day	36th Day	41st day

VII. MALAM: [BOWEL HABITS / STOOLS]

	Before treatment	After treatment
Niram		
Irugal		
Ilagal		
Others		

VIII. MOOTHIRAM [URINE EXAMINATION]

Neerkkuri	Before treatment	After treatment
Niram		
Manam		
Edai		
Nurai		
Enjal		

NEIKURI	Before treatment	After treatment
Aravu (Serpentine fashion)		
Aazhi (Annular/Ringed fashion)		
Muthu (Pearl beaded fashion)		
Kalappu (Mixed fashion)		
Other fashion		

CLINICAL EXAMINATION:
CLINICAL EXAMINATION OF SKIN

Inspection

1.Site: ----------

---

2. Colour:	Normal	Reddish	Black	Greyish
3. Shape:	Irregular	Coin shape	Dispersed	
4. Itching:	No	Mild	Moderate	Severe
5.Oozing:	No	Mild	Moderate	Severe
6. Erythema:	No	Mild	Moderate	Severe
7. Bleeding:	No	Mild	Moderate	Severe
8. Crusting:	No	Mild	Moderate	Severe
9. Lichenification:	No	Mild	Moderate	Severe
10. Scaling:	No	Mild	Moderate	Severe

YES **NO**

14. Ulcération:

15. Macule:

16. Papule:

17. Pustule:

18. Blister:

19.Vesicle :

20. Pigmentation: Normal Hypo Hyper

YOGAM ASSESSMENT FORM

STUDY NO: **OP/IP NO:**

NAME OF THE ASANAM:

- Pranayamam

Day	Date	Morning	Evening	Day	Date	Morning	Evening
Day 1				**Day21**			
Day2				**Day22**			
Day3				**Day23**			
Day4				**Day24**			
Day5				**Day25**			
Day6				**Day26**			
Day7				**Day27**			
Day8				**Day28**			
Day9				**Day29**			
Day10				**Day30**			
Day11				**Day31**			
Day12				**Day32**			
Day13				**Day33**			
Day14				**Day34**			
Day15				**Day35**			
Day 16				**Day 36**			
Day 17				**Day 37**			
Day 18				**Day 38**			
Day 19				**Day39**			
Day 20				**Day 40**			

FORM II C-CLINICAL ASSESSMENT DURING AND AFTER TRIAL

OP/ IP NO: **STUDY NO:** **NAME:**

AGE/GENDER: **DATE OF RECRUITMENT:**

	1st day	**After 7 days**	**After 14 days**	**After 21days**	**After 28 days**	**After 35 days**	**After 40 days**
Itching							
Oozing							
Erythema							
Papules							
Vesicle							
Scaling							
Pigmentation							
Lichenification							

Date:

Station:

Signature of the Investigator:

Signature of the Lecturer: **Signature of the HOD**

NATIONAL INSTITUTE OF SIDDHA

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POST-GRADUATE DEPARTMENT OF SIRAPPU MARUTHUVAM

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[PRINCIPAL INVESTIGATOR] Dr. B. R. DINESH

FORM-III – LABORATORY INVESTIGATIONS PROFORMA

STUDY NO: OP / IP NO: AGE/GENDER:

BLOOD INVESTIGATIONS		**NORMAL VALUES**	**BEFORE TMT (DATE)**	**AFTER TMT (DATE)**
Hb(gm/dl)		**M:12-15 F:11.5-14**		
T.WBC (cells/cu.mm)		**4000-11000**		
DIFFERENTIAL COUNT (%)	**Polymorphs**	**40-75**		
	Lymphocytes	**20-40**		
	Monocytes	**2-10**		
	Eosinophils	**1-6**		
	Basophils	**0-1**		
T.RBC(million cells/cu.mm)		**M:4.0-5.5 F:3.5-4.5**		
ESR(mm/hour)	**½ hr.**	**M:1-13 F:1-20**		
	1 hr.			

Blood Investigations		**Normal Values**	**Before TMT (DATE)**	**After TMT (DATE)**
Blood glucose (mg/dl)	**Fasting**	**70-110**		
	PP	**80-140**		
	Random	**80-120**		
RFT	**Blood urea**	**16-50**		

(mg/dl)	**Serum creatinine**	**0.6-1.2**		
	Serum uric acid	**M:3-9 F:2.5-7.5**		
LFT (mg/dl)	**Total bilirubin**	**0.2-1.2**		
	Direct bilirubin	**0.1-1.2**		
	Indirect bilirubin	**0.2-0.7**		
	SGOT (IU/L)	**0-40**		
	SGPT (IU/L)	**0-35**		
	Alkaline phosphatase(IU/L)	**80-290**		

Date:

Urine investigations	**Before TMT(Date)**	**After TMT (Date)**
Albumin		
Fasting sugar		
PP sugar		
Deposits		

Station:

Signature of the Investigator:

Signature of the Lecturer: **Signature of the HOD**

NATIONAL INSTITUTE OF SIDDHA

AYOTHIDOSS PANDITHAR HOSPITAL,CHENNAI – 600 047.

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FORM VI: INFORMED CONSENT FORM

"I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have asked have been answered to my satisfaction.

I consent voluntarily to participate in this study and understand that I have the right to withdraw from the study at any time without affecting my further medical care".

"I have received a copy of the information sheet/consent form".

Signature of the participant:

In case of illiterate participant

"I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely."

Date:

Signature of a witness

Left thumb Impression of the Participant

(Selected by the participant bearing no connection with the survey team)

Signature of the Investigator

Signature of the Lecturer

Signature of the HOD

தேசிய சித்த மருத்துவ நிறுவனம்

அயோத்திதாஸ் பண்டிதர் மருத்துவமனை-சென்னை 47

கரப்பான் நோய்க்கான சித்த மருந்துகளின் பரங்கிசக்கை சூரணம் மற்றும் கரப்பான் எண்ணெய் பரிகரிப்புத் திறனைக் கண்டறியும் மருத்துவ ஆய்விற்கான

ஒப்புதல் படிவம்-ஆய்வாளரால் சான்றளிக்கப்பட்டது

நான் இந்த ஆய்வு குறித்த அனைத்து விபரங்களையும் நோயாளிக்கு புரியும் வகையில் எடுத்துரைத்தேன் என உறுதியளிக்கிறேன்.

தேதி: **கையொப்பம்:**

இடம்: **பெயர் :**

நோயாளியின் ஒப்புதல்

என்னிடம் இந்த மருத்துவ ஆய்வின் காரணத்தையும், மருந்தின் தன்மை மற்றும் மருத்துவ வழிமுறை பற்றியும், தொடர்ந்து எனது உடல் இயக்கத்தை கண்காணிக்கவும், அதனை பாதுகாக்கவும் பயன்படும் மருத்துவ ஆய்வுக்கூட பரிசோதனைகள் பற்றி திருப்தி அளிக்கும் வகையில் ஆய்வு மருத்துவரால் விளக்கிக் கூறப்பட்டது.

நான் இந்த மருத்துவ ஆய்வின் போது , எப்பொழுது வேண்டுமானாலும் இந்த ஆய்விலிருந்து என்னை விடுவித்து கொள்ளும் உரிமையை தெரிந்திருக்கின்றேன். நான் என்னுடைய சுதந்திரமாக தேர்வு செய்யும் உரிமையைக் கொண்டு கரப்பான் நோய்க்கான **பரங்கிசக்கை சூரணம்** (உள் மருந்து) மற்றும் **கரப்பான் எண்ணெய்** (வெளி மருந்து) மருந்தின் பரிகரிப்புத் திறனைக் கண்டறியும் மருத்துவ ஆய்விற்கு என்னை உட்படுத்த ஒப்புதல் அளிக்கிறேன்.

தேதி: **கையொப்பம்:**

இடம்: **பெயர் :**

உறவுமுறை: **சாட்சிக்காரர் கையொப்பம்:**

பெயர் :

விரிவுரையாளர் கையொப்பம் : **துறைத்தலைவர் கையொப்பம்**

FORM V – PATIENT INFORMATION SHEET

Name of Principal Investigator: Dr.B.R.Dinesh

Name of the institute: National Institute of Siddha,
Tambaram Sanatorium, Chennai-47.

I, Dr.B.R.Dinesh studying M.D (Siddha) at National Institute of Siddha, Tambaram Sanatorium is doing a trial on Karappan(Eczema).Eczema is a most common persistent skin disease, occurring throughout the world. In this regard, I am in a need to ask you few questions. I will maintain confidentiality of your comments and data obtained. There will be no risk of disclosing your identity and no physical, psychological or professional risk is involved by taking part in this study. Taking part in this study is voluntary. No compensation will be paid to you for taking part in this study.

You can choose not to take part. You can choose not to answer a specific question. There is no specific benefit for you if you take part in the study. However, taking part in the study may be of benefit to the community, as it may help us to understand the problem of defaulters and potential solutions.

If you agree to be a participant in this study, you will be included in the study primarily by signing the consent form and then you will be given the internal medicine ***Parangisakkai Chooranam*** (Internal medicine- 4.2gms BD for 40 days) and ***Karappan Ennai*** (External medicine), if you wish to stay in the In-Patient ward Yogasanam Treatment will be provided to you assuring that you will not be definitely hurt in any course of treatment.

The information I am collecting in this study will remain confidential. I will ask you few questions through a questionnaire. It will take approximately 20 min of time. Your name won't be mentioned in the lab investigation form instead a code will be used.

If you wish to find out more about this study before taking part, you can ask me all the questions you want or contact Dr.B.R.Dinesh, PG Scholar cum principal investigator of this study, National Institute of Siddha, Chennai-47, Phone no: 9597795620,9677220912. You can also contact the Member-secretary of Ethics committee, National Institute of Siddha, Chennai 600047, Tel No:044-22380789 for rights and participation in the study.

தேசிய சித்த மருத்துவ நிறுவனம்

அயோத்திதாஸ் பண்டிதர் மருத்துவமனை - சென்னை 47

கரப்பான் நோய்க்கான சித்த மருந்துகளின் பரங்கிசக்கை சூரணம் மற்றும் கரப்பான் எண்ணெய் பரிகரிப்புத் திறனைக் கண்டறியும் மருத்துவ ஆய்விற்கான

தகவல் படிவம்.

முதன்மை ஆராய்ச்சியாளர் பெயர்: மருத்துவர் : பூ.ரா. தினேஷ்

நிறுவனத்தின் பெயர் : தேசிய சித்த மருத்துவ நிறுவனம்

தேசிய சித்த மருத்துவ நிறுவனத்தில் பட்ட மேற்படிப்பு பயின்று வரும் நான் மருத்துவர் பூ.ரா. தினேஷ் கரப்பான் என்னும் நோயில் மருத்துவ ஆராய்ச்சியில் ஈடுபட்டுள்ளேன். இது பரவ கூடிய நோய் அன்று. இந்த ஆராய்ச்சி சம்பந்தமாக சில கேள்விகளை கேட்கவும், தேவையான ஆய்வக பரிசோதனைக்கு தங்களை உட்படுத்தவும் உள்ளேன்.இது சம்பந்தமான தங்களது அனைத்து விவரங்களும் ரகசியமாக வைக்கப்படும் என உறுதி அளிக்கிறேன். இதில் பயணப்படி முதலிய எந்த உதவித் தொகையும் வழங்கப்பட மாட்டாது. இந்த ஆராய்ச்சியின் போது உடலுக்கு வேறு பாதிப்பு ஏற்படும் பட்சத்தில் தேசிய சித்த மருத்துவமனையில் தக்க சிகிச்சை அளிக்கப்படும்.இந்த ஆராய்ச்சிக்கு தாங்கள் விருப்பத்தின் பேரில் உட்படும் பட்சத்தில் உள்மருந்தாக **பரங்கிசக்கை சூரணம்** வெந்நீர் (4.2gm)2 வேளை (காலை,மாலை) உணவுக்குப் பின் 40 நாட்கள் உட்கொள்ள வேண்டும். வெளி மருந்தாக **கரப்பான் எண்ணெய்** வெளியே தடவ வேண்டும். வெளி நோயாளர்கள் 7 நாட்களுக்கு ஒருமுறை மருத்துவமனைக்கு வரவேண்டும். உள் நோயாளியாக தங்க விருப்பம் தெரிவிக்கும் பட்சத்தில் நோய்க்கு தகுந்த யோக சிகிச்சையும் அளிக்கப்படும். இந்த ஆராய்ச்சியில் நோயினராக சேர்ந்த பிறகு உங்களுக்கு விருப்பம் இல்லையெனில் எப்போது வேண்டுமானாலும் விலகி கொள்ளலாம். இந்த ஆராய்ச்சி சம்பந்தமாக மற்ற விபரங்களுக்கும் நோயின் தன்மை பற்றியும் முதன்மை ஆராய்ச்சியாளரான மருத்துவர் பூ. ரா. தினேஷ்(பட்ட மேற் படிப்பாளர் சிறப்பு மருத்துவ துறை) அணுகவும். கைப்பேசி எண் 9597795620,9677220912. மேலும் இந்த ஆராய்ச்சிக்கு IEC சான்று பெறப்பட்டுள்ளது. இந்த மருந்து சிறப்பாக கரப்பான்நோய்க்காக அங்கீகரிக்கப்பட்ட சித்த மருத்துவ நூலில் கூறப்பட்டுள்ளது. ஏற்கனவே உபயோகத்தில் உள்ள இது போன்ற மருந்து இதுவரை நோயாளிகளிடம் எந்த வித பக்க விளைவுகளையும் ஏற்படுத்தவில்லை. மேலும் உணவு முறையில் மருத்துவரால் கூறப்படும் பத்தியம் காக்குமாறு அறிவுறுத்தப்படுகிறது.

NATIONAL INSTITUTE OF SIDDHA

AYOTHIDOSS PANDITHAR HOSPITAL
CHENNAI – 600 047.

POST-GRADUATE DEPARTMENT OF SIRAPPU MARUTHUVAM

A comparative clinical study of *Parangichakkai Chooranam* (Internal medicine) and *Karappan Ennai* (external medicine) for the treatment of Karappan (Eczema)with and without yogam.

PRINCIPAL INVESTIGATOR Dr. B. R. DINESH

FORM IV (DRUG COMPLIANCE FORM)

STUDY NO OP / IP NO: **NAME:** **AGE/GENDER:**

DRUG NAME: **Parangichakkai Chooranam**

On 1st day-Date: Drugs issued: (Gms) Drugs returned: (Gms)

On 8th day-Date: Drugs issued: (Gms) Drugs returned: (Gms)

On 15th day-Date: Drugs issued: (Gms) Drugs returned: (Gms)

On 22nd day-Date: Drugs issued: (Gms) Drugs returned: (Gms)

On 29th day-Date: Drugs issued: (Gms) Drugs returned: (Gms)

On 36th day-Date: Drugs issued: (Gms) Drugs returned: (Gms)

On 41st day-Date: Drugs issued: (Gms) Drugs returned: (Gms)

	Date	Morning	Evening	Day	Date	Morning	Evening
Day 1				Day21			
Day2				Day22			
Day3				Day23			
Day4				Day24			
Day5				Day25			
Day6				Day26			
Day7				Day27			
Day 8				Day28			
Day9				Day29			
Day10				Day30			
Day11				Day31			
Day12				Day32			
Day13				Day33			
Day14				Day34			
Day15				Day35			
Day16				Day36			

Day17				Day37			
Day18				Day38			
Day19				Day39			
Day20				Day40			

Date:

Station:

Signature of the Investigator

Signature of the Lecturer Signature of the HOD

1. Patient / consumer identification (please complete or tick boxes below as appropriate)

NATIONAL PHARMACOVIGILANCE PROGRAMME FOR SIDDHA DRUGS

Reporting Form for Suspected Adverse Reactions to Siddha

Please note: i. All consumers / patients and reporters information will remain confidential.
ii. It is requested to report all suspected reactions to the concerned, even if it does not have complete data, as soon as possible.

Peripheral Centre code: State:

Name	Father name	Patient / Record No.
Ethnicity	Occupation	
Address Village / Town Post / Via District / State		Date of Birth / Age: Sex: M / F Weight : Degam:

2. Description of the suspected Adverse Reactions (please complete boxes below)

Date and time of initial observation		Season:
Description of reaction		Geographical area:

3. List of all medicines / Formulations including drugs of other systems used by the patient during the reporting period:

Medicine	**Daily dose**	**Route of administration & Vehicle - Adjuvant**	**Date**		**Diagnosis for which medicine taken**
			Starting	**Stopped**	
Siddha					
Any other system of medicines					

4. Brief details of the Siddha Medicine which seems to be toxic :

Details	Drug – 1	Drug – 2	Drug - 3
a) Name of the medicine			
b) Manufacturing unit and batch No. and date			

c) Expiry date			
d) Purchased and obtained from			
e) Composition of the formulation / Part of the drug used			

b) Dietary Restrictions if any

c) Whether the drug is consumed under Institutionally qualified medical supervision or used as self medication.

d) Any other relevant information.

5. Treatment provided for adverse reaction:

6. The result of the adverse reaction / side effect / untoward effects (please complete the boxes below)

Recovered:	Not recovered:	Unknown:	Fatal:	If Fatal Date of death:

Severe: Yes / No.	Reaction abated after drug stopped or dose reduced:
	Reaction reappeared after re introduction:

Was the patient admitted to hospital? If yes, give name and address of hospital	

7. Any laboratory investigations done to evaluate other possibilities? If Yes specify:

8. Whether the patient is suffering with any chronic disorders?

Hepatic Renal Cardiac Diabetes Malnutrition

Any Others

9. H/O previous allergies / Drug reactions:

10. Other illness (please describe):

11. Identification of the reporter:

Type (please tick): Nurse / Doctor / Pharmacist / Health worker / Patient / Attendant / Manufacturer / Distributor / Supplier / Any others (please specify)
Name:

Address:
Telephone / E – mail if any :

Signature of the reporter: **Date:**

Please send the completed form to:

Name & address of the RRC-ASU / PPC-ASU

The Director
National Institute of Siddha,
(Pharmacovigilance Regional Centre For Siddha Medicine),
Tambaram Sanatorium, Chennai-600 047.
☏ (O) 044-22381314 Fax : 044 – 22381314
Website : www.nischennai.org
Email: nischennaisiddha@yahoo.co.in

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FORM VIII - DIETARY ADVICE FORM

சேர்க்க கூடிய உணவுகள்:

முருங்கைப்பிஞ்சு(Drumstick), அவரைப்பிஞ்சு,
காரட்(carrot), பீட்ரூட்(Beet root).
கரிசாலை, பொன்னாங்கண்ணி,
மணத்தக்காளி, சிறுகீரை, (Greens)
முருங்கைக்கீரை(Moringa leaves), பசலைக்கீரை(palak)
கறிவேப்பிலை(curry leaves), கொத்தமல்லி(coriandar).
மாதுளை(Pomegranate), ஆப்பிள்(Apple)
பேரீச்சை(Dates), அத்தி(fig),
திராட்சை(Grapes) சப்போட்டா(sappotta)
உலர் திராட்சை(Dry grapes)
வேகவைத்த காய்கறிகள்(vegetables)

தவிர்க்க வேண்டியவைகள்:

கம்பு, சோளம்,
கேழ்வரகு, தினை, (Millets)
சாமை
வாழைக்காய் (Ripe Banana), பூசணிக்காய்(Pumpkin)
கோழிக்கறி(Chicken), மீன்(Fish)
நண்டு(crab), கருவாடு(Dry fish),
முட்டை (Egg) , கொய்யா(guava)
புளி(Tamarind), ஊறுகாய்(Pickles)
புகையிலை(Tobacco) , மது அருந்துதல்(Alcohol)
பெண்போகம்,

குளியலுக்கு:

சோப்பு, சீயக்காய், தவிர்க்கவும்.
பாசிப்பயறு மாவு , கடலை மாவு தேய்த்து குளிக்கவும்.

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6. Noi Naadal Noi Mudal Naadal Thirattu
7. Udal Thathuvam
8. Siddha Maruththuvanga Surukkam
9. Noi Illa Neri
10. Siddha Maruththuvam Pothu
11. Aruvai Maruthuvam
12. Pathartha Guna Chinthamani
13. Gunapadam Molligai Vaguppu
14. Yugi Vaithiya Chinthamani karappan roga nidhanam
15. Para rasa sekaram kiranthi nidhanam
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